Agenda Item: 6.3.3

Source: T3

Title: CRs to TS 31.121

**Document for:** Approval

This document contains the following change requests that are approved by 3GPP TSG T3 and forwarded to 3GPP TSG T#27 for approval:

Doc-2nd- Level	Spec	CR	Rev	Rel	Subject	Cat	Ver- old	Ver- new	WI
T3-050101	31.121	047		R99	Correction of Operator controlled PLMN selector handling tests	F	3.11.0	3.12.0	TEI
T3-050102	31.121	048		Rel-4	Correction of Operator controlled PLMN selector handling tests	Α	4.10.0	4.11.0	TEI
T3-050103	31.121	049		Rel-5	Correction of Operator controlled PLMN selector handling tests	Α	5.0.0	5.1.0	TEI
T3-050173	31.121	050		R99	Correction to the 'Maximum frequency of ACM updating' test	F	3.11.0	3.12.0	TEI
T3-050105	31.121	051		Rel-4	Correction to the 'Maximum frequency of ACM updating' test	Α	4.10.0	4.11.0	TEI
T3-050106	31.121	052		Rel-5	Correction to the 'Maximum frequency of ACM updating' test	Α	5.0.0	5.1.0	TEI
T3-050119	31.121	053		R99	Correction of verification of EF PSLOCI in section 7 "PLMN related tests":	F	3.11.0	3.12.0	TEI
T3-050156	31.121	054		Rel-4	Correction of verification of EF PSLOCI in section 7 "PLMN related tests":	Α	4.10.0	4.11.0	TEI
T3-050157	31.121	055		Rel-5	Correction of verification of EF PSLOCI in section 7 "PLMN related tests":	Α	5.0.0	5.1.0	TEI
T3-050122	31.121	056		R99	Correction of HPLMN Search Period tests	F	3.11.0	3.12.0	TEI
T3-050123	31.121	057		Rel-4	Correction of HPLMN Search Period tests	Α	4.10.0	4.11.0	TEI
T3-050124	31.121	058		Rel-5	Correction of HPLMN Search Period tests	Α	5.0.0	5.1.0	TIE

# **3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005**

# *Tdoc* **#***T3-050101*

(revised T3-050044)

CHANGE REQUEST											
*	31.121 CR 047	жrev - ж с	Current version: 3.11.0 <sup>₩</sup>								
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \mathbb{K} symbols.											
Proposed change affects: UICC apps% X ME Radio Access Network Core Network											
Title: #	CR 31.121, R99; Correction of	of Operator controlled	PLMN selector handling tests								
Source: #	T3										
Work item code: ₩	TEI		<i>Date:</i> 第 08/02/2005								
Category: #	F  Jse one of the following categorie F (correction) A (corresponds to a correction) B (addition of feature), C (functional modification of D (editorial modification) Detailed explanations of the above e found in 3GPP TR 21.900.	on in an earlier release) feature)	Release: # R99  Use one of the following releases: Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)								
Reason for change	# The test cases 7.3.1 and 1 handling, though the EF U		perator controlled PLMN selector support of this service.								
Summary of chang	:   ## Initial conditions of test ca	ses 7.3.1 and 7.3.2 co	orrected								
Consequences if not approved:	器 UEs might unfairly fail the	test cases 7.3.1 and 7	7.3.2.								
Clauses affected:	策 7.3.1.4.1, 7.3.2.4.1										
Other specs affected:	Y N  X Other core specific X Test specifications O&M Specifications										
Other comments:	*										

## How to create CRs using this form:

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- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
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3)	With "track changes" of just in front of the claus which are not relevant	disabled, paste the enti se containing the first p to the change reques	re CR form (use CTRI piece of changed text.	L-A to select it) into the Delete those parts of	e specification the specification

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

[..]

### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exceptions:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	Operator controlled PLMN selector available

The coding of EF<sub>UST</sub> shall conform with the capabilities of the USIM used.

## EF<sub>OPLMNwACT</sub> (OPLMN Selector)

Logically: 1<sup>st</sup> PLMN: 254 012 (MCC MNC)

 $1^{st}$  ACT UTRAN  $2^{nd}$  PLMN: 254 011  $2^{nd}$  ACT UTRAN  $3^{rd}$  PLMN: 254 002  $3^{rd}$  ACT: UTRAN  $4^{th}$  PLMN: 254 003  $4^{th}$  ACT: UTRAN UTRAN

5<sup>th</sup> PLMN: 254 004 5<sup>th</sup> ACT: **UTRAN** 6<sup>th</sup> PLMN: 254 005 6<sup>th</sup> ACT: **UTRAN** 7<sup>th</sup> PLMN: 254 006 7<sup>th</sup> ACT: **UTRAN** 8<sup>th</sup> PLMN: 254 007 8<sup>th</sup> ACT: **UTRAN** 

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

[..]

## 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

- Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enghlad Carvices Table evailable

Operator controlled PLMN selector available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The coding of  $EF_{UST}$  shall conform with the capabilities of the USIM used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

# **3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005**

# *Tdoc* **#** *T3-050102*

(revised T3-050045)

	CHANGE REQUEST											
×		31	.121	CR 0	48	жrev	-	Ж	Current vers	ion: <mark>4.10</mark> .	. <b>0</b>	
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>#</b> symbols.												
Proposed change affects: UICC apps X ME Radio Access Network Core Network												
Title:	g	₩ CF	31.12	1, Rel-4:	Correctio	n of Opera	tor co	ntroll	ed PLMN sel	ector handlir	ng tests	
Source:	8	<b>€</b> Т3										
Work ite	m code:	⊭ TE	I						Date: ∺	08/02/200	5	
Category	<i>7:</i> 3	Deta	F (cor A (cor B (add C (fun D (edi ailed ex	rection) responds dition of fe ctional mo torial mod	eature), odification of lification) s of the abo	ction in an ea		elease	Ph2	Rel-4 the following (GSM Phase (Release 199 (Release 199 (Release 4) (Release 5) (Release 5) (Release 6) (Release 7)	2) 96) 97) 98)	
Reason	for chang	ge: Ж							Operator cont he support of			
Summar	y of chan	ıge: ૠ	Initial	condition	ns of test o	cases 7.3.1	and 7	7.3.2	corrected			
Consequ not appr	ences if oved:	*	UEs r	night unf	airly fail th	ne test case	s 7.3.	1 an	d 7.3.2.			
Clauses	affected:	* **	7.3.1.	4.1, 7.3.2	2.4.1							
Other sp		¥	Y N X X	Test sp	ore specification	าร	Ж					
Other co	mments:	· **										

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- 1) Fill out the above form. The symbols above marked \$\mathbb{K}\$ contain pop-up help information about the field that they are closest to.
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3)	With "track changes" of just in front of the claus which are not relevant	disabled, paste the enti se containing the first p to the change reques	re CR form (use CTRI piece of changed text.	L-A to select it) into the Delete those parts of	e specification the specification

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

[..]

### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exceptions:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	Operator controlled PLMN selector available

The coding of EF<sub>UST</sub> shall conform with the capabilities of the USIM used.

## EF<sub>OPLMNwACT</sub> (OPLMN Selector)

Logically: 1<sup>st</sup> PLMN: 254 012 (MCC MNC)

 $1^{st}$  ACT UTRAN  $2^{nd}$  PLMN: 254 011  $2^{nd}$  ACT UTRAN  $3^{rd}$  PLMN: 254 002  $3^{rd}$  ACT: UTRAN  $4^{th}$  PLMN: 254 003  $4^{th}$  ACT: UTRAN UTRAN

5<sup>th</sup> PLMN: 254 004 5<sup>th</sup> ACT: **UTRAN** 6<sup>th</sup> PLMN: 254 005 6<sup>th</sup> ACT: **UTRAN** 7<sup>th</sup> PLMN: 254 006 7<sup>th</sup> ACT: **UTRAN** 8<sup>th</sup> PLMN: 254 007 8<sup>th</sup> ACT: **UTRAN** 

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

[..]

## 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

- Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enghlad Carvices Table evailable

Operator controlled PLMN selector available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The coding of  $EF_{UST}$  shall conform with the capabilities of the USIM used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

# **3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005**

# Tdoc # T3-050103

(revised T3-050046)

	CHANGE REQUEST												
*		31	.121	CR	049	C	⊭rev	-	Ħ	Current ver	sion:	5.0.0	¥
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.													
Proposed change affects: UICC apps% X ME Radio Access Network Core Network													
Title:	Ж	CR	31.12	1, Rel-	5: Correc	ction of	Operat	or co	ntroll	ed PLMN se	lecto	r handling	tests
Source:	ж	T3											
Work iter	n code: ₩	ТЕ	I							Date: 3	8 08	/02/2005	
Category	: ∺	Deta	F (cor A (cor B (add C (fun D (edi illed ex	rection) respond dition of actional i torial ma	wing cate ds to a cor feature), modification ns of the a TR 21.900	rrection on of fea n) above c	ature)		elease	Release: # Use <u>one</u> o Ph2 e) R96 R97 R98 R99 Rel-4 Rel-5 Rel-6 Rel-7	f the for (GSI) (Rele (Rele (Rele (Rele (Rele (Rele (Rele	-	)   
Reason fe	or chang	e: Ж								Operator cor he support o			selector
Summary	of chan	<b>ge:</b> ૠ	Initial	conditi	ons of te	st case	es 7.3.1	and 7	7.3.2	corrected			
Consequ not appro		ж	UEs r	night u	nfairly fai	il the te	est case	s 7.3.	1 an	d 7.3.2.			
Clauses a	affected:	×	7.3.1.	4.1, 7.3	3.2.4.1								
Other speaffected:	ecs	ж	Y N X X	Test	core spe specificat Specifica	tions	ions	¥					
Other cor	nments:	$\mathfrak{H}$											

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3)	With "track changes" of just in front of the claus which are not relevant	disabled, paste the enti se containing the first p to the change reques	re CR form (use CTRI piece of changed text.	L-A to select it) into the Delete those parts of	e specification the specification

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

[..]

### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exceptions:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	Operator controlled PLMN selector available

The coding of EF<sub>UST</sub> shall conform with the capabilities of the USIM used.

## EF<sub>OPLMNwACT</sub> (OPLMN Selector)

Logically: 1<sup>st</sup> PLMN: 254 012 (MCC MNC)

 $1^{st}$  ACT UTRAN  $2^{nd}$  PLMN: 254 011  $2^{nd}$  ACT UTRAN  $3^{rd}$  PLMN: 254 002  $3^{rd}$  ACT: UTRAN  $4^{th}$  PLMN: 254 003  $4^{th}$  ACT: UTRAN UTRAN

5<sup>th</sup> PLMN: 254 004 5<sup>th</sup> ACT: **UTRAN** 6<sup>th</sup> PLMN: 254 005 6<sup>th</sup> ACT: **UTRAN** 7<sup>th</sup> PLMN: 254 006 7<sup>th</sup> ACT: **UTRAN** 8<sup>th</sup> PLMN: 254 007 8<sup>th</sup> ACT: **UTRAN** 

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

[..]

## 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

- Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enghlad Carvices Table evailable

Operator controlled PLMN selector available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The coding of  $EF_{UST}$  shall conform with the capabilities of the USIM used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

[..]

3GPP TSG-T3 #34 Barcelona, Spain 8-11 February, 2005

Consequences if not approved:

CHANGE REQUEST													
*	31	.121	CR	51	<b>≋rev</b>	-	$\mathbb{H}$	Current vers	4.	<mark>10.0</mark> <sup>ജ</sup>			
For HELP on Proposed change				bottom of		_		e pop-up text		e			
	∺ Co ∺ T3	rrectio	n to the	: "Maximur	m frequency	of AC	M up	odating" test.					
Work item code:		14						<i>Date:</i> ∺	08/02/	2005			
Category:	Deta	F (cor A (cor B (add C (fun D (edi iiled ex	rection) respond dition of actional i torial mo planatio	feature), modification odification)	ories: ection in an ear of feature) ove categories		lease	Ph2	_	9 1996) 9 1997) 9 1998) 9 1999) 9 4) 9 5) 9 6)			
Reason for chang	ge: Ж	The te termin See TS  "6.4.2 This h	(Accument st should and s du st needs nated.  S 22.024  1 Defas been g a call,	d only be mring a call.  to be modified to be to be described and clarified.  the specification and clarified.	Meter) is upd nonitoring the ified to take in 4.3 h for furth applicability"	ated o time in to acc er info curren	ount orma	mination of a crals between sure updates of the tion contradicts itse	call.  Contact of the second o	INCREMENT	th.		

₩ There is a strong possibility that MEs will unfairly fail the test

Summary of change: # This change takes into account that the ACM can be updated on termination of call and not

wait for the elapse of the time interval specified.

Other specs	¥	Υ	N X	Other core specifications #	
affected:		X		Test specifications	TS 51.010-1 (TC 27.21.2) (to be dealt with at GERAN3 (5-7 April)).
Other comments:	 #		X	O&M Specifications	

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

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- 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.

# 6.4.2 Maximum frequency of ACM updating

## 6.4.2.1 Definition and applicability

During a call, the ACM shall be updated at the end of every interval. The interval length is the greater of either 5 s or the value given by parameter e2 (part of the Facility Information Element).

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

## 6.4.2.2 Conformance requirement

The ACM shall be incremented when the CCM is incremented or once every 5 s, whichever is the longer period.

When used the value '1C' shall be used as SFI for EF<sub>ACM</sub>, for compatibility reasons the terminal shall accept other values.

#### Reference:

- TS 22.024[8], subclause 4.3, part h;
- TS 31.102 [4], subclauses 4.2.9, 5.3.4 and Annex H.1.

## 6.4.2.3 Test purpose

- 1) To verify that the Terminal, during a call, increments the ACM every 5 s when e2 is less or equal to 5 s.
- 2) To verify that the Terminal is able to handle other values than '1C' as SFI of EF<sub>ACM</sub>.

## 6.4.2.4 Method of test

## 6.4.2.4.1 Initial conditions

The Terminal shall be connected to the USIM simulator, with all elementary files coded as default with the exception of:

## **EF**<sub>UST</sub> (USIM Service Table)

Logically: Local Phone Book available;

User controlled PLMN selector available;

Fixed dialling numbers available; The GSM Access available;

The Group Identifier level 1 and level 2 not available;

AoC available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available

 Coding:
 B1
 B2
 B3
 B4
 B5

 binary
 xxxx xx11
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx
 xxxx xxxx

The coding of  $EF_{\text{UST}}$  shall conform with the capabilities of the USIM used.

### EF<sub>ACM</sub> (Accumulated call meter)

Logically: 50 units

## $EF_{ACMmax}$ (Accumulated call meter maximum)

Logically: 150 units

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

The UE is in MM-state "idle, updated".

#### 6.4.2.4.2 Procedure

- a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS 34.108 [21], subclause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC e-parameters sent in a Facility IE in the CONNECT message, as given below. The UE returns the AoCC acknowledgement after the reception of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the UE before or after the CONNECT ACKNOWLEDGE.
- b) The call is maintained for 90 s, then terminated by the USS. During the call, the USIM-simulator monitors the time intervals between successive INCREMENT commands. As the final INCREMENT command will have occurred as a result of call termination, the time interval calculated since the prior INCREMENT command shall be ignored.

Maximum Duration of Test:

2 minutes.

## **Expected Sequence:**

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> USS	RRC CONNECTION REQUEST	
3	USS -> UE	RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP	
		COMPLETE	
5		CM SERVICE REQUEST	
6	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity in step 8
7	UE -> USS	AUTHENTICATION RESPONSE	
8	USS -> UE	SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call setup
9	UE -> USS	SECURITY MODE COMPLETE	
10	UE -> USS	SETUP	
11		CALL PROCEEDING	
12		RADIO BEARER SETUP	To a supported channel type
13		RADIO BEARER SETUP COMPLETE	
14		ALERTING	
15	USS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A16		CONNECT ACKNOWLEDGE	
A17	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B16	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B17	UE -> USS	CONNECT ACKNOWLEDGE	,
18			call duration 90 s after CAI information sent by USS,
19		DISCONNECT	
20	UE -> USS		
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents:

i) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080[17] subclause 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 31.6.4.

The values of the e-parameters within the parameter part of the Facility Information Element shall be set as below:

e-parameters:

Values shown in table are in the format and have units as in TS 22.024[8] clause 3.

**ii) FACILITY Information Element** with **Return Result** component type as defined in TS 24.080[17] subclause 3.6.1 table 3.4.

For ASN.1 description see default message contents TS 51.010-1 [22], in subclause 31.6.4.

## 6.4.2.5 Acceptance criteria

The UE shall, during a call, send INCREMENT commands to the USIM every 5 s.

3GPP TSG-T3 #34 Barcelona, Spain 8-11 February, 2005

	CHANGE REQUEST													
ж <mark>. 3</mark>	1.121	CR 5	2	жrev	-	Ħ	Current vers	sion:	5.0.0	¥				
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the <b>%</b> symbols.														
Proposed change affects: UICC apps# ME X Radio Access Network Core Network  Title:   **Correction to the "Maximum frequency of ACM updating" test.														
Title: 第 C	orrection	to the "N	/laximum fr	equency	of AC	M up	odating" test.							
Source: # T:	3													
Work item code:	EI5						<i>Date:</i> ∺	08/	02/2005					
Work item code:  TEI5  Date:  08/02/2005  Release:  Release:  Rel-5  Use one of the following categories:  F (correction)  A (corresponds to a correction in an earlier release)  B (addition of feature),  C (functional modification of feature)  Ph2 (GSM Phase 2)  R96 (Release 1996)  R97 (Release 1997)  C (functional modification of feature)  Ph2 (GSM Phase 2)  R96 (Release 1998)  R97 (Release 1999)  Poetailed explanations of the above categories can be found in 3GPP TR 21.900.  Rel-5 (Release 4)  Rel-6 (Release 5)  Rel-6 (Release 7)														
Reason for change: 3									ccount tha	t the				
ACM (Accumulated Call Meter) is updated on termination of a call.  The test should only be monitoring the time intervals between successive INCREM commands during a call.  The test needs to be modified to take into account updates of the ACM once the caterminated.  See TS 22.024 subclause 4.3 h for further information  "6.4.2.1 Definition and applicability" currently contradicts itself as to the interval This has been clarified.  During a call, the specified minimum time interval that the ACM is updated is the of either 5 seconds or the time interval specified in parameter e2.														
Summary of change: \$	This ch	nange take r the elaps	s into accouse of the time	nt that the e interval s	ACM specifi	can ied.	be updated on		nation of c	all and not				
Consequences if \$ not approved:	f There i	s a strong	possibility t	hat MEs w	ill un	fairly	fail the test							

Clauses affected: # 6.4.2.1, 6.4.2.3, 6.4.2.4.2 & 6.4.2.5

		Υ	N		
Other specs	$\mathfrak{H}$		X	Other core specifications #	
affected:		X Test specifications		Test specifications  O&M Specifications	TS 51.010-1 (TC 27.21.2) (to be dealt with at GERAN3 (5-7 April)).
Other comments:	¥			·	ges (T3-040578) which were incorrectly available in 6.4.2.4.1)

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

# Coding: B1 B2 B2 B3 B4 B5 SXXX XXII

a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS Enabled Services Table available

In case of a Terminal accessing UTRAN "Expected Sequence A" and in case of a Terminal accessing a GERAN "Expected Sequence B" shall be performed.

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66	31	.121	CK	053	<b>≋rev</b>	-	- Ф	Current	version	3.11	.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# X ME Radio Access Network Core Network														
Title: #		R 31.12 sts"	ts" S31.121 R99: Correction to verification of <b>EF<sub>PSLOCI</sub></b> in section 7 "PLMN related											
Source: #	T3													
Work item code: ₩	TE	il						Date	e:	1/02/200	05			
Category: #	F							Release	• 4P □	99				
	Deta	F (cordinated for a factor of the factor of	rection) respond dition of ctional torial m planatic	ds to a corre feature), modification odification)	ction in an ear			Ph2	GS (GS) (GS) (Re) (Re) (Re) (Re) (Re) (Re) (Re) (Re	following SM Phase please 19 please 19 please 19 please 4) please 5) please 6)	996) 997) 998) 999)			
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Summary of chan	<b>ge:</b> ૠ				he 3 bytes relations there is EF <sub>PSL</sub>				ignature	in EF <sub>PSL</sub>	<sub>.OCI</sub> in all			
Consequences if not approved:	#	There	is a pos	ssibility that	MEs will unfa	airly 1	fail th	ie test.						
Clauses affected:	Ж	7.1.1	.5, 7.1	.3.5, 7.2.2.	5, 7.3.1.5, 7.	3.2.5	, 7.4	.1.5, 7.4.2	2.5					
Other specs affected:	ж	Y N X X		r core speci specificatio		¥								
		X	O&M	Specification	ons									

 $\mathfrak{H}$ 

Other comments:

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

# 7 PLMN related tests

# 7.1 FPLMN handling

# 7.1.1 Adding FPLMN to the Forbidden PLMN list

# 7.1.1.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

## 7.1.1.2 Conformance requirement

- 1) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST during registration on CS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - II. in automatic PLMN selection mode the UE shall only attempt a ATTACH REQUEST during registration on PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - III. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM.

### Reference:

- TS 22.011, subclause 2.3;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 2) Depending on which domain the UE is going to be on, one of the following requirements should be fulfilled:
  - I. after receipt of a LOCATION UPDATE REJECT message during registration on CS with the cause "PLMN not allowed" the Terminal shall update the  $EF_{FPLMN}$  in the USIM or
  - II. after receipt of a ATTACH REJECT message during registration on PS with the cause "PLMN not allowed" the Terminal shall update the  $EF_{EPLMN}$  in the USIM or
  - III. after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF<sub>FPLMN</sub> in the USIM.

## Reference:

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 3) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - after registration on CS the USIM shall contain the correct TMSI and location information received by the UE or
  - II. after registration on PS the USIM shall contain the correct P-TMSI and routing information received by the UE or
  - III. after registration on CS/PS the USIM shall contain the correct TMSI, P-TMSI, location information and routing information received by the UE.

#### Reference:

- TS 31.102, subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111, subclause 10.1.

## 7.1.1.3 Test purpose

- To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF<sub>FPLMN</sub> on the USIM.
- 2) To verify that the EF<sub>FPLMN</sub> is correctly updated by the Terminal after receipt of a
  - LOCATION UPDATING REJECT message with cause "PLMN not allowed" during registration on CS or
  - II. ATTACH REJECT message with cause "PLMN not allowed" during registration on PS or
  - III. LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration on CS/PS.
- 3) To verify that
  - I. the EF<sub>LOCI</sub> has been correctly updated by the Terminal during registration on CS or.
  - II. the EF<sub>PSLOCI</sub> has been correctly updated by the Terminal during registration on PS or.
  - III. the EF<sub>LOCI</sub> and EF<sub>PSLOCI</sub> have been correctly updated by the Terminal during registration on CS/PS.

## 7.1.1.4 Method of test

### 7.1.1.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

## EF<sub>IMSI</sub> (IMSI)

Logically: 246081111111111

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex									

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 007 LAI-LAC: 0000

TMSI: "32547698"

Coding: **B**1 B2 **B**3 B4 B5 B6 B7 B8 B9 B10 B11 74 00 00 32 54 76 98 32 00 00 FF Hex

## EF<sub>PSLOCI</sub> (Packet Switched location Information)

Logically: RAI-MCC: 234

RAI-MNC: 007 RAI-LAC: 0000 RAI-RAC: 05

P-TMSI: "32547698"

P-TMSI signature value: "112233"

B2 **B**3 B4 **B**5 B6 B8 **B9** B10 Coding: **B**1 B7 **B11** Hex 32 54 76 98 11 22 33 32 74 00 00

> B12 B13 B14 00 05 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

### 7.1.1.4.2 Procedure

a) The UE is powered on.

b) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The USS then resumes RF output on the BCCH.

c) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The USS then resumes RF output on the BCCH.

d) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The USS then resumes RF output on the BCCH.

e) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/007/0001

RAI (MCC/MNC/LAC/RAC): 234/007/0001/05

The USS then resumes RF output on the BCCH.

- f) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS sends ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS sends LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/008/0001

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

The USS then resumes RF output on the BCCH.

- h) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- i) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

I. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with:

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

II. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

- j) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- k) The UE is soft powered down.

## 7.1.1.5 Acceptance criteria

- 1) After each of the steps a) to d) the UE shall not attempt a LOCATION UPDATE and not a ATTACH procedure..
- 2) After step f) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USSduring registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step h) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 4) After step i) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 5) After step k) the USIM shall contain the following values:

## EF<sub>FPLMN</sub> (Forbidden PLMNs)

Logically:		PLMN1	1: 23	234 002 (MCC MNC)											
		PLMN2	2: 23	234 003											
		PLMN3:		234 004											
PLN			1: 23	234 005											
		PLMN5:		234 006											
		PLMN6:		4 007											
Coding: Hex	B1 32	B2 24	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00			
	B13 32	B14 64	B15 00	B16 32	B17 74	B18 00									

For UEs supporting (CS and PS) or (CS only):

## **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 008

TMSI: "43658709"

Coding: **B**1 B2 **B3 B4 B**5 B6 **B7** B8 **B9 B10** B11 84 43 87 09 32 00 Hex 65 XX ХX XX 00

## For UEs supporting (CS and PS) or (PS only):

## EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 008

P-TMSI: "43658709"

P TMSI signature value: "443322"

Coding: В1 B2 В3 B4 **B**5 B6 B7 **B8 B9** B10 B11 Hex 43 65 87 09 <u>xx</u>44 <u>xx</u>33 <u>xx</u>22 32 84 00 XX

Coding: B12 B13 B14 Hex xx xx 00

[...]

# 7.1.3 UE deleting forbidden PLMNs

## 7.1.3.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

## 7.1.3.2 Conformance requirement

- 1) Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:
  - I. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt during registration on CS to a PLMN which is in the forbidden PLMN list.or
  - II. In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration on PS to a PLMN which is in the forbidden PLMN list or
  - III. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING and/or ATTACH attempt during registration on CS/PS to a PLMN which is in the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.2.

- 2) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. after receipt of LOCATION UPDATING ACCEPT message during registration on CS the UE shall delete the forbidden PLMN from the forbidden PLMN list or.
  - II. after receipt of ATTACH ACCEPT message during registration on PS the UE shall delete the forbidden PLMN from the forbidden PLMN list or
  - III. after receipt of LOCATION UPDATING ACCEPT and/or ATTCH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.4.

## 7.1.3.3 Test purpose

- 1) To verify that the UE is able to perform
  - I. a LOCATION UPDATING REQUEST during registration on CS on a forbidden PLMN in manual PLMN selection modeor
  - II. a ATTACH REQUEST during registration on PS on a forbidden PLMN in manual PLMN selection mode or
  - III. a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS on a forbidden PLMN in manual PLMN selection mode:
- 2) To verify that the UE after a successful registration attempt deletes the PLMN in the EF<sub>FPLMN</sub> on the USIM.

#### 7.1.3.4 Method of test

## 7.1.3.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/005/0001.

- RAI (MCC/MNC/LAC/RAC): 234/005/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

### **EF<sub>FPLMN</sub>** (Forbidden PLMNs)

Logically: PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:		I2:     6       I3:     6       I4:     6       I5:     2	empty empty empty empty 234 005 (MCC MNC) empty									
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 32	B14 54	B15 00	B16 FF	B17 FF	B18 FF						

The UICC is installed into the Terminal and the UE is set to manual PLMN selection mode.

#### 7.1.3.4.2 Procedure

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with to the UE:

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

- e) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- f) The UE is soft powered down.

## 7.1.3.5 Acceptance criteria

- 1) After step c) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or

- II. ATTACH REQUEST during registration on PS or
- III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 2) After step d) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 3) After step f) the USIM shall contain the following values:

## EF<sub>FPLMN</sub> (Forbidden PLMNs)

Logically:		PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:		mpty mpty mpty mpty mpty mpty								
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 FF	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF						

## For UEs supporting CS only or CS/PS:

## **EF**<sub>LOCI</sub> (Location Information)

LAI-MCC: 234 LAI-MNC: 005

TMSI: "12345678"

B2 ВЗ В6 Coding: В1 B4 B5 В7 B8 В9 B10 B11 34 56 78 54 00 00 Hex XX ΧХ ΧХ

## For UEs supporting PS only or CS/PS:

## EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 005

P-TMSI: "12345678"

P-TMSI signature value: "AB1234

Coding: B2 ВЗ B4 B10 **B**1 B5 B6 B7 B8 **B9** B11 Hex 12 34 56 78 **xx34** 32 00 **ABxx** <u>xx</u>12

 Coding:
 B12
 B13
 B14

 Hex
 xx
 xx
 00

# 7.2 User controlled PLMN selector handling

[...]

# 7.2.2 UE recognising the priority order of the User controlled PLMN selector list with the same access technology.

## 7.2.2.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNwACT}$ . Update and deletion of UPLMNs may be performed by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

## 7.2.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority order of the UPLMNs in the preferred list on the USIM.

• TS 22.011, subclause 3.2.2.

## 7.2.2.3 Test purpose

To verify that the UPLMN with the higher priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the UPLMN with the lower priority when the UE performs a network selection.

## 7.2.2.4 Method of test

## 7.2.2.4.1 Initial conditions

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/033/0001.

RAI (MCC/MNC/LAC/RAC): 244/033/0001/05.

Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/034/0001.

- RAI (MCC/MNC/LAC/RAC): 244/034/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

## EF<sub>PLMNwACT</sub> (UPLMN Selector with Access Technology)

Logically: 1<sup>st</sup> PLMN: 244 081 (MCC MNC)

 $\begin{array}{lll} 1^{st} \, ACT: & UTRAN \\ 2^{nd} \, PLMN: & 244 \, 081 \\ 2^{nd} \, ACT & GSM \end{array}$ 

		3 <sup>rd</sup> 1	PLMN: ACT PLMN: ACT	244 ( UTR 244 ( GSM	AN 082										
		•••••	••												
		10 <sup>th</sup> 11 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup>	PLMN: ACT PLMN: ACT ACT PLMN: ACT PLMN:	UTR 244 ( UTR	AN 034 AN 033										
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	42	14	80	00	80	42	24	80	80	00
	B16 42	B17 24	B18 80	B19 00	B20 80										
	B46 42	B47 84	B48 00	B49 80	B50 00	B51 42	B52 44	B53 30	B54 80	B55 00	B56 42	B57 34	B58 30	B59 80	B60 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.2.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/034 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC):244/034/0001

TMSI: "34567890"

II During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with the following values:

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE with some of the following values:

LAI (MCC/MNC/LAC): 244/034/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After passing through the authentication procedure and after receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.2.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/034 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 3) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244 LAI-MNC: 034

LAI-MNC: 034

TMSI: "34567890"

Coding: B2 В3 **B**5 B6 B8 B10 B11 **B**1 B4 **B7 B9** Hex 34 56 78 90 42 44 30 XX 00 XX XX

#### For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 034 P-TMSI: "34567890"

			P-TMS	<del>I signatur</del>	e value:",	AB1234"						
1	Coding: Hex	B1 34	B2 56	B3 78	B4 90	B5 <u>xx</u> AB	B6 <u>xx</u> 42	B7 <u>xx</u> 34	B8 42	B9 44	B10 30	B11 xx
	Coding: Hex	B12 xx	B13 xx	B14 00								
	гı											

# [...]

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

# 7.3.1.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>OPLMNwACT</sub>. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

I.registration procedures for UEs supporting CS or

- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.3.1.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclause 4.2.53.

# 7.3.1.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in  $EF_{OPLMNwACT}$ ) takes precedence over the OPLMN with the lower priority when the UE performs a network selection.

#### 7.3.1.4 Method of test

### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### **EF<sub>OPLMNwACT</sub>** (**OPLMN Selector**)

Logically:	1 <sup>st</sup> PLMN:	254 012 (MCC MNC)
	1 <sup>st</sup> ACT	UTRAN
	2 <sup>nd</sup> PLMN:	254 011
	2 <sup>nd</sup> ACT	UTRAN
	3 <sup>rd</sup> PLMN:	254 002
	3 <sup>rd</sup> ACT:	UTRAN
	4 <sup>th</sup> PLMN:	254 003
	4 <sup>th</sup> ACT:	UTRAN
	5 <sup>th</sup> PLMN:	254 004
	5 <sup>th</sup> ACT:	UTRAN
	6 <sup>th</sup> PLMN:	254 005
	6 <sup>th</sup> ACT:	UTRAN
	7 <sup>th</sup> PLMN:	254 006
	7 <sup>th</sup> ACT:	UTRAN
	8 <sup>th</sup> PLMN:	254 007
	8 <sup>th</sup> ACT:	UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.1.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 254/012 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with following values:

LAI (MCC/MNC/LAC):254/012/0001

TMSI: "34567890"

to the UE.

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE.with following values:

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE.with some of the following values:

LAI (MCC/MNC): 254/012/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.3.1.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 254/012 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST. to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or

- III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 254

LAI-MNC: 012

TMSI: "34567890"

Coding: В1 B2 **B3 B**4 **B**5 B6 **B7** B8 **B9** B10 B11 Hex 56 78 90 24 10 XX ΧХ ΧХ 00

#### For UEs supporting (CS and PS) or (PS only):

#### **EF**<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 254 RAI-MNC: 012

P-TMSI: "34567890"

P TMSI signature value: "AB1234

Coding: **B**1 B2 **B3 B4 B**5 B6 В7 B8 **B9** B10 B11 Hex 56 78 90 **XXAB** xx12 **xx34** 52 24 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

# 7.3.2.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNWACT}$ .

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.3.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2.2;
- TS 31.102, subclauses 4.2.5 and 4.2.53.

# 7.3.2.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the OPLMN with a higher priority when the UE performs a network selection.

#### 7.3.2.4 Method of test

#### 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/010 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on , one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values:

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values:

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the

security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values :

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.3.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/010 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 010

TMSI: "34567890"

Coding: B2 B3 B11 В1 B4 B5 B6 B7 B8 B9 B10 34 56 78 90 42 04 10 NΩ XX XX XX

#### For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 244 RAI-MNC: 010

P-TMSI: "34567890"

P TMSI signature value: "AB1234"

Coding: B4 В8 B10 B11 B5 B6 B7 <u>xx</u>12 Hex 34 56 78 90 **XX**AB <u>xx</u>34 42 04 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.4 HPLMN search handling

# 7.4.1 UE recognising the search period of the HPLMN

# 7.4.1.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

# 7.4.1.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.1.4 Method of test

#### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:

- I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 246/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

B2 **B**3 B5 B6 Codina: R1 R4 R7 R۸ R9 B10 B11 Hex 12 34 56 78 42 16 80 00 XX ХX хx

#### For UEs supporting (CS and PS) or (PS only):

#### EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B2 ВЗ B6 B8 В9 B10 B11 B1 B4 B5 **B7** Hex 12 34 56 78 <u>xx</u>AB <u>xx</u>12 **xx34** 42 16 80 ХX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the HPLMN

# 7.4.2.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>HPLMNACT</sub>. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE accessing both UTRAN and GSM using either ID-1 or Plug-in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.2.4 Method of test

#### 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 246 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 16 80 80 00

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

a) The UE is powered on.

- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/081

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 246/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.
- NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.
- 5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

# EF<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

Coding: В1 B2 ВЗ В4 B5 В6 В7 B8 В9 B10 B11 Hex 12 34 56 78 42 16 80 XX XX ΧХ 00

# For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B1 B2 В3 B4 B5 B6 В7 B8 В9 B10 B11 <u>xx</u>AB <u>xx</u>34 Hex 12 34 56 78 42 16 80 <u>xx</u>12 XX

 Coding:
 B12
 B13
 B14

 Hex
 xx
 xx
 00

# 7.5 Void

# *Tdoc* **#** *T3-050122*

# **3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005**

(revised T3-050060)

	CHANG	SE REQUES	CR-Form-v7.1
*	31.121 CR 056	жrev - ж	Current version: 3.11.0 <sup>#</sup>

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols.

Proposed chan	ge a	affects:	UICC apps <b>⋇</b> <mark>X</mark>	M	E Radio Acc	ess Netwo	rk <mark>X</mark> C	Core Network
Title:	ж	CR 31.	121, R99: Correction	on of HPL	MN Search Per	iod tests		
			,					
Source:	$\mathfrak{H}$	T3						
Work item code	e:#	TEI				Date: ₩	11/02/	2005
Category:	$\mathfrak{H}$	F			ı	Release: ೫	R99	
			of the following cated	gories:				ving releases:
		,	correction)			Ph2	(GSM PI	,
		•	corresponds to a corr	rection in a	n earlier release)	R96	(Release	,
			addition of feature),		1	R97	(Release	
		•	functional modificatio		<del>9</del> )	R98	(Release	•
		,	editorial modification)			R99	(Release	,
			explanations of the a	•	jones can	Rel-4 Rel-5	(Release	,
		be lound	in 3GPP <u>TR 21.900</u> .			Rel-6	(Release	,
						Rel-0 Rel-7	(Release	,
						r.c7	(1 toleast	. · · )

# Reason for change: ₩ a) In the test cases 7.4.1 and 7.4.2 the UE first registers on a VPLMN with MCC 244 and MNC 081. After this registration is completed, UE discovers HPLMN (MCC 246 and MNC 081) and it is expected to register on HPLMN. This is not consistent with Section 3GPP TS 22.011, cl. 3.2.2.5: "A UE in Automatic Mode shall make periodic attempts to look for a higher priority PLMN including associated Access Technology of the same country as the currently received PLMN including associated Access Technology." Therefore the UE, which is in a VPLMN with an MCC different from the HPLMN's MCC, does not need to look for and register on the HPLMN. b) Service no. 43 shall be enabled in 7.4.2, but this is not stated in the initial conditions c) Because it is optional to support service no. 43 from Rel-6 and onwards (HPLMN selector with Access Technology), the applicability of this test has to be adjusted correspondingly Summary of change: ₩ a) MCC adjusted to same value and minor corrections implemented. b) Service no. 43 enabled in test case 7.4.2 c) Applicability of test case 7.4.2 adjusted

		d)	"HPLMN" and "Home PLMN" replaced by "Higher priority PLMN"
Consequences if	¥	a)	UEs not registering to the HPLMN would unfairly fail the test sequences.
not approved:		b)	Test case 7.4.2 can't be executed correctly due to disabled service
		c)	MEs, which have implemented service no. 43 according to Rel-6 or later, would be mandated to execute test case 7.4.2 with an unsupported feature

Clauses affected:	第 7.4.1, 7.4.2
Other specs affected:	Y N  X Other core specifications X Test specifications O&M Specifications
Other comments:	ж <mark>.</mark>

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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 reques

# 7.4 Higher priority PLMN search handling

# 7.4.1 UE recognising the search period of the Higher priority PLMN

# 7.4.1.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher ome priority PLMN on which the UE shall register first. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

# 7.4.1.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN takes precedence over the VPLMN in which the UE is currently registered in.

### 7.4.1.4 Method of test

#### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.
- RAI (MCC/MNC/LAC/RAC): 244/0821/0001/05.
- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPPLMN</sub> (Higher Priority PLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/0821/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/0812/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 2446/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC  $24\underline{46}/081$  to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <u>4</u> 6
	LAI-MNC:	081

TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex											

#### For UEs supporting (CS and PS) or (PS only):

#### **EF**<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 2446 RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	AB	12	34	42	1 <u>64</u>	80	XX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN

# 7.4.2.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority ome PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is

stored on the USIM in the EF<sub>HPLMNwACT</sub>. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE that supports the Higher priority PLMN selector with Access Technology service. In the case that the terminal has implemented this feature according to Rel-6 or later, this test is optional. accessing both UTRAN and GSM using either ID-1 or Plug in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

# 7.4.2.4 Method of test

# 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.

Access control: unrestricted.

The default UICC is used with the following exceptions:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 2446 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 164 80 80 00

# EF<sub>HPPLMN</sub> (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

#### **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	HPLMN selector with access technology available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/0812

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 2464/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.

- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

### For UEs supporting (CS and PS) or (CS only):

# **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <mark>64</mark>
	I ALMNC:	081

TMSI: "12345678"

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	1 <u>64</u>	80	XX	XX	XX	00

# For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 24<u>46</u> RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding: В1 B2 В3 R4 **B5** B6 B7 B8 B9 B10 B11 Hex 34 56 78 AB 12 34 42 1<del>6</del>4 80 12 XX

Coding: B12 B13 B14 Hex xx xx 00

# Tdoc # T3-050123

# 3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005

(revised T3-050061)

	CHANC	GE REQUES	CR-Form-v7.1
*	31.121 CR 057	<b>≭rev</b> -	# Current version: 4.10.0   #

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols.

Proposed chan	ge affects: UICC apps第 <mark>X</mark> ME Radio Acce	ess Network X Core Network
Title:	器 CR 31.121, Rel-4: Correction of HPLMN Search Pe	riod tests
Source:	<b>Ж</b> Т3	
Work item code	: # TEI4	Date:
Cotomorn	* A	Polonos W Dol 4
Category:	Use one of the following categories:  F (correction)  A (corresponds to a correction in an earlier release)  B (addition of feature),  C (functional modification of feature)  D (editorial modification)  Detailed explanations of the above categories can be found in 3GPP TR 21.900.	Release: # Rel-4 Use one of the following releases: Ph2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6) Rel-7 (Release 7)

Reason for change: #	a)	In the test cases 7.4.1 and 7.4.2 the UE first registers on a VPLMN with MCC 244 and MNC 081. After this registration is completed, UE discovers HPLMN (MCC 246 and MNC 081) and it is expected to register on HPLMN.
		This is not consistent with Section 3GPP TS 22.011, cl. 3.2.2.5: "A UE in Automatic Mode shall make periodic attempts to look for a higher priority PLMN including associated Access Technology of the same country as the currently received PLMN including associated Access Technology."
		Therefore the UE, which is in a VPLMN with an MCC different from the HPLMN's MCC, does not need to look for and register on the HPLMN.
	b)	Service no. 43 shall be enabled in 7.4.2, but this is not stated in the initial conditions
	c)	Because it is optional to support service no. 43 from Rel-6 and onwards (HPLMN selector with Access Technology), the applicability of this test has to be adjusted correspondingly
Summary of change: #	a)	MCC adjusted to same value and minor corrections implemented.
	ŕ	Service no. 43 enabled in test case 7.4.2
	c)	Applicability of test case 7.4.2 adjusted

		d)	"HPLMN" and "Home PLMN" replaced by "Higher priority PLMN"
Consequences if	¥	a)	UEs not registering to the HPLMN would unfairly fail the test sequences.
not approved:		b)	Test case 7.4.2 can't be executed correctly due to disabled service
		c)	MEs, which have implemented service no. 43 according to Rel-6 or later, would be mandated to execute test case 7.4.2 with an unsupported feature

Clauses affected:	第 7.4.1, 7.4.2
Other specs affected:	Y N  X Other core specifications X Test specifications O&M Specifications
Other comments:	ж <mark>.</mark>

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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 reques

# 7.4 Higher priority PLMN search handling

# 7.4.1 UE recognising the search period of the Higher priority PLMN

# 7.4.1.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher ome priority PLMN on which the UE shall register first. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

# 7.4.1.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN takes precedence over the VPLMN in which the UE is currently registered in.

### 7.4.1.4 Method of test

#### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.
- RAI (MCC/MNC/LAC/RAC): 244/0821/0001/05.
- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPPLMN</sub> (Higher Priority PLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/0821/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/08+2/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 2446/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC  $24\underline{46}/081$  to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <u>4</u> 6
	LAI-MNC:	081

TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex											

#### For UEs supporting (CS and PS) or (PS only):

#### **EF**<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 2446 RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	AB	12	34	42	1 <u>64</u>	80	XX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN

# 7.4.2.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority ome PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is

stored on the USIM in the  $EF_{HPLMN\underline{w}ACT}$ . The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE that supports the Higher priority PLMN selector with Access Technology service. In the case that the terminal has implemented this feature according to Rel-6 or later, this test is optional. accessing both UTRAN and GSM using either ID-1 or Plug in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

# 7.4.2.4 Method of test

# 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.

Access control: unrestricted.

The default UICC is used with the following exceptions:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 2446 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 164 80 80 00

# EF<sub>HPPLMN</sub> (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

#### **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	HPLMN selector with access technology available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/0812

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 2464/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.

- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

### For UEs supporting (CS and PS) or (CS only):

# **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <mark>64</mark>
	I ALMNC:	081

TMSI: "12345678"

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	1 <u>64</u>	80	XX	XX	XX	00

# For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 24<u>46</u> RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding: В1 B2 В3 R4 **B5** B6 B7 B8 В9 B10 B11 Hex 34 56 78 AB 12 34 42 1<del>6</del>4 80 12 XX

Coding: B12 B13 B14 Hex xx xx 00

# Tdoc # T3-050124

# **3GPP TSG-T3 Meeting #34 Barcelona, Spain, 08.-11.02.2005**

(revised T3-050062)

	C	CHANGE	REQ	UE	ST	-	С	R-Form-v7.1
*	31.121 CR	058	жrev	-	$\mathfrak{H}$	Current version:	5.0.0	*

For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the \mathbb{H} symbols.

Proposed chan	ge affects: UICC appsЖ <mark>Ϫ</mark> ME Radio Acce	ess Network X Core Network
Title:	器 CR 31.121, Rel-5: Correction of HPLMN Search Pe	riod tests
Source:	<b>Ж</b> Т3	
Work item code	:# TEI5	<i>Date:</i> ## 11/02/2005
Category:		Release: % Rel-5
	Use <u>one</u> of the following categories:	Use <u>one</u> of the following releases:
	<ul><li>F (correction)</li><li>A (corresponds to a correction in an earlier release)</li></ul>	Ph2 (GSM Phase 2) R96 (Release 1996)
	B (addition of feature),	R97 (Release 1997)
	C (functional modification of feature)	R98 (Release 1998)
	<b>D</b> (editorial modification)	R99 (Release 1999)
	Detailed explanations of the above categories can	Rel-4 (Release 4)
	be found in 3GPP <u>TR 21.900</u> .	Rel-5 (Release 5)
		Rel-6 (Release 6) Rel-7 (Release 7)
		Rel-7 (Release 7)

# Reason for change: ₩ a) In the test cases 7.4.1 and 7.4.2 the UE first registers on a VPLMN with MCC 244 and MNC 081. After this registration is completed, UE discovers HPLMN (MCC 246 and MNC 081) and it is expected to register on HPLMN. This is not consistent with Section 3GPP TS 22.011, cl. 3.2.2.5: "A UE in Automatic Mode shall make periodic attempts to look for a higher priority PLMN including associated Access Technology of the same country as the currently received PLMN including associated Access Technology." Therefore the UE, which is in a VPLMN with an MCC different from the HPLMN's MCC, does not need to look for and register on the HPLMN. b) Service no. 43 shall be enabled in 7.4.2, but this is not stated in the initial conditions c) Because it is optional to support service no. 43 from Rel-6 and onwards (HPLMN selector with Access Technology), the applicability of this test has to be adjusted correspondingly Summary of change: ₩ a) MCC adjusted to same value and minor corrections implemented. b) Service no. 43 enabled in test case 7.4.2 c) Applicability of test case 7.4.2 adjusted

		d)	"HPLMN" and "Home PLMN" replaced by "Higher priority PLMN"
Consequences if	¥	a)	UEs not registering to the HPLMN would unfairly fail the test sequences.
not approved:		b)	Test case 7.4.2 can't be executed correctly due to disabled service
		c)	MEs, which have implemented service no. 43 according to Rel-6 or later, would be mandated to execute test case 7.4.2 with an unsupported feature

Clauses affected:	第 7.4.1, 7.4.2
Other specs affected:	Y N  X Other core specifications X Test specifications O&M Specifications
Other comments:	ж <mark>.</mark>

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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 reques

# 7.4 Higher priority PLMN search handling

# 7.4.1 UE recognising the search period of the Higher priority PLMN

# 7.4.1.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher ome priority PLMN on which the UE shall register first. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

# 7.4.1.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN takes precedence over the VPLMN in which the UE is currently registered in.

### 7.4.1.4 Method of test

### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.
- RAI (MCC/MNC/LAC/RAC): 244/0821/0001/05.
- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPPLMN</sub> (Higher Priority PLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/0821/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/0812/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/08+2/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 2446/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2446/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2446/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC  $24\underline{46}/081$  to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <u>4</u> 6
	LAI-MNC:	081

TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex											

### For UEs supporting (CS and PS) or (PS only):

### **EF**<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 2446 RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	AB	12	34	42	1 <u>64</u>	80	XX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the Higher priority PLMN

# 7.4.2.1 Definition and applicability

The Higher priority PLMN list gives in priority order the Higher priority ome PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is

stored on the USIM in the EF<sub>HPLMNwACT</sub>. The Higher priority PLMN search period gives the time interval in which the UE shall search for a possible Higher priority PLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE that supports the Higher priority PLMN selector with Access Technology service. In the case that the terminal has implemented this feature according to Rel-6 or later, this test is optional. accessing both UTRAN and GSM using either ID-1 or Plug in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the Higher priority PLMN search period timer and the priority order of the Higher priority PLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the Higher priority PLMN timer is read and the Higher priority PLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

# 7.4.2.4 Method of test

# 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/08<u>2</u>1/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

LAI (MCC/MNC/LAC): 24<u>4</u>6/081/0001.

- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.

Access control: unrestricted.

The default UICC is used with the following exceptions:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 2446 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 164 80 80 00

# EF<sub>HPPLMN</sub> (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

#### **EF**<sub>UST</sub> (USIM Service Table)

Logically:	Local Phone Book available
	User controlled PLMN selector available
	Fixed dialling numbers available
	Barred dialling numbers available
	The GSM Access available
	The Group Identifier level 1 and level 2 not available
	Service n 33 (Packed Switched Domain) shall be set to '1'
	Enabled Services Table available
	HPLMN selector with access technology available

 Coding:
 B1
 B2
 B3
 B4
 B5
 B6

 binary
 xx1x xx11
 xxxx xxxx
 xxxx 1x00
 xxxx x1xx
 xxxx xx1x
 xxxx xx1x

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/0812

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 2464/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.

- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):2464/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 2464/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 2464/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

### For UEs supporting (CS and PS) or (CS only):

# **EF**<sub>LOCI</sub> (Location Information)

Logically:	LAI-MCC:	24 <mark>64</mark>
	I ALMNC:	081

TMSI: "12345678"

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	1 <u>64</u>	80	XX	XX	XX	00

# For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 24<u>46</u> RAI-MNC: 081 P-TMSI: "12345678"

P-TMSI signature value: "AB1234"

Coding: В1 B2 В3 R4 **B**5 B6 B7 B8 В9 B10 B11 Hex 34 56 78 AB 12 34 42 1<del>6</del>4 80 12 XX

Coding: B12 B13 B14 Hex xx xx 00

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Clauses affected:	¥	7.1.1	.5, 7.1	.3.5, 7.2.	2.5, 7	.3.1.5, 7	'.3.2.5	5, 7.4	.1.5, 7	7.4.2.5				
Other specs affected:	<b></b>	Y N X X	Other Test	core spesspecificat	ecifica tions	tions	Ж							
Other comments:	æ													

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

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- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

# 7 PLMN related tests

# 7.1 FPLMN handling

# 7.1.1 Adding FPLMN to the Forbidden PLMN list

# 7.1.1.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.1.1.2 Conformance requirement

- 1) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST during registration on CS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - II. in automatic PLMN selection mode the UE shall only attempt a ATTACH REQUEST during registration on PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - III. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM.

#### Reference:

- TS 22.011, subclause 2.3;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 2) Depending on which domain the UE is going to be on, one of the following requirements should be fulfilled:
  - I. after receipt of a LOCATION UPDATE REJECT message during registration on CS with the cause "PLMN not allowed" the Terminal shall update the  $EF_{FPLMN}$  in the USIM or
  - II. after receipt of a ATTACH REJECT message during registration on PS with the cause "PLMN not allowed" the Terminal shall update the  $\mathrm{EF}_{\mathrm{FPLMN}}$  in the USIM or
  - III. after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF<sub>FPLMN</sub> in the USIM.

### Reference:

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 3) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - after registration on CS the USIM shall contain the correct TMSI and location information received by the UE or
  - II. after registration on PS the USIM shall contain the correct P-TMSI and routing information received by the UE or
  - III. after registration on CS/PS the USIM shall contain the correct TMSI, P-TMSI, location information and routing information received by the UE.

#### Reference:

- TS 31.102, subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111, subclause 10.1.

# 7.1.1.3 Test purpose

- To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF<sub>FPLMN</sub> on the USIM.
- 2) To verify that the EF<sub>FPLMN</sub> is correctly updated by the Terminal after receipt of a
  - LOCATION UPDATING REJECT message with cause "PLMN not allowed" during registration on CS or
  - II. ATTACH REJECT message with cause "PLMN not allowed" during registration on PS or
  - III. LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration on CS/PS.
- 3) To verify that
  - I. the EF<sub>LOCI</sub> has been correctly updated by the Terminal during registration on CS or.
  - II. the EF<sub>PSLOCI</sub> has been correctly updated by the Terminal during registration on PS or.
  - III. the EF<sub>LOCI</sub> and EF<sub>PSLOCI</sub> have been correctly updated by the Terminal during registration on CS/PS.

#### 7.1.1.4 Method of test

#### 7.1.1.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

### EF<sub>IMSI</sub> (IMSI)

Logically: 246081111111111

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex									

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 007 LAI-LAC: 0000

TMSI: "32547698"

Coding: **B**1 B2 **B**3 B4 B5 B6 B7 B8 B9 B10 B11 74 00 00 32 54 76 98 32 00 00 FF Hex

# EF<sub>PSLOCI</sub> (Packet Switched location Information)

Logically: RAI-MCC: 234

RAI-MNC: 007 RAI-LAC: 0000 RAI-RAC: 05

P-TMSI: "32547698"

P-TMSI signature value: "112233"

B2 **B**3 B4 **B**5 B6 B8 **B9** B10 Coding: **B**1 B7 **B11** Hex 32 54 76 98 11 22 33 32 74 00 00

> B12 B13 B14 00 05 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.1.1.4.2 Procedure

a) The UE is powered on.

b) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The USS then resumes RF output on the BCCH.

c) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The USS then resumes RF output on the BCCH.

d) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The USS then resumes RF output on the BCCH.

e) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/007/0001

RAI (MCC/MNC/LAC/RAC): 234/007/0001/05

The USS then resumes RF output on the BCCH.

- f) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS sends ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS sends LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/008/0001

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

The USS then resumes RF output on the BCCH.

- h) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- i) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

I. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with:

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

II. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

- j) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- k) The UE is soft powered down.

# 7.1.1.5 Acceptance criteria

- 1) After each of the steps a) to d) the UE shall not attempt a LOCATION UPDATE and not a ATTACH procedure..
- 2) After step f) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USSduring registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step h) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 4) After step i) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 5) After step k) the USIM shall contain the following values:

# EF<sub>FPLMN</sub> (Forbidden PLMNs)

Logically: PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:		PLMN1	: 23	234 002 (MCC MNC)										
		PLMN2	2: 23	4 003										
		PLMN3	3: 23	234 004										
		PLMN <sup>2</sup>	l: 23	234 005										
		PLMN5	5: 23	4 006										
		5: 23	234 007											
Coding: Hex	B1 32	B2 24	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00		
	B13 32	B14 64	B15 00	B16 32	B17 74	B18 00								

For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 008

TMSI: "43658709"

Coding: **B**1 B2 **B3 B4 B**5 B6 **B7** B8 **B9 B10** B11 84 43 87 09 32 00 Hex 65 XX ХX XX 00

#### For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 008

P-TMSI: "43658709"

P TMSI signature value: "443322"

Coding: В1 B2 В3 B4 **B**5 B6 B7 **B8 B9** B10 B11 Hex 43 65 87 09 <u>xx</u>44 <u>xx</u>33 <u>xx</u>22 32 84 00 XX

Coding: B12 B13 B14 Hex xx xx 00

[...]

# 7.1.3 UE deleting forbidden PLMNs

# 7.1.3.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.1.3.2 Conformance requirement

- 1) Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:
  - I. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt during registration on CS to a PLMN which is in the forbidden PLMN list.or
  - II. In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration on PS to a PLMN which is in the forbidden PLMN list or
  - III. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING and/or ATTACH attempt during registration on CS/PS to a PLMN which is in the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.2.

- 2) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. after receipt of LOCATION UPDATING ACCEPT message during registration on CS the UE shall delete the forbidden PLMN from the forbidden PLMN list or.
  - II. after receipt of ATTACH ACCEPT message during registration on PS the UE shall delete the forbidden PLMN from the forbidden PLMN list or
  - III. after receipt of LOCATION UPDATING ACCEPT and/or ATTCH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.4.

# 7.1.3.3 Test purpose

- 1) To verify that the UE is able to perform
  - I. a LOCATION UPDATING REQUEST during registration on CS on a forbidden PLMN in manual PLMN selection modeor
  - II. a ATTACH REQUEST during registration on PS on a forbidden PLMN in manual PLMN selection mode or
  - III. a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS on a forbidden PLMN in manual PLMN selection mode:
- 2) To verify that the UE after a successful registration attempt deletes the PLMN in the EF<sub>FPLMN</sub> on the USIM.

#### 7.1.3.4 Method of test

#### 7.1.3.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/005/0001.

- RAI (MCC/MNC/LAC/RAC): 234/005/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### **EF<sub>FPLMN</sub>** (Forbidden PLMNs)

Logically: PLMN1: PLMN2: PLMN3: PLMN4: PLMN5: PLMN6:			I2:     6       I3:     6       I4:     6       I5:     2	empty empty empty empty 234 005 (MCC MNC) empty									
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF	
	B13 32	B14 54	B15 00	B16 FF	B17 FF	B18 FF							

The UICC is installed into the Terminal and the UE is set to manual PLMN selection mode.

#### 7.1.3.4.2 Procedure

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with to the UE:

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

- e) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- f) The UE is soft powered down.

# 7.1.3.5 Acceptance criteria

- 1) After step c) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or

- II. ATTACH REQUEST during registration on PS or
- III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 2) After step d) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 3) After step f) the USIM shall contain the following values:

#### EF<sub>FPLMN</sub> (Forbidden PLMNs)

PL PL PL PL		PLMN PLMN PLMN PLMN PLMN PLMN	2: e: 4: e: 4: e: 5: e: 4: e:	empty empty empty empty empty empty empty								
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 FF	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF						

# For UEs supporting CS only or CS/PS:

#### **EF**<sub>LOCI</sub> (Location Information)

LAI-MCC: 234 LAI-MNC: 005

TMSI: "12345678"

B2 ВЗ В6 Coding: В1 B4 B5 В7 B8 В9 B10 B11 34 56 78 54 00 00 Hex XX ΧХ ΧХ

#### For UEs supporting PS only or CS/PS:

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 005

P-TMSI: "12345678"

P-TMSI signature value: "AB1234

Coding: B2 ВЗ B4 B10 **B**1 B5 B6 B7 B8 **B9** B11 Hex 12 34 56 78 **xx34** 32 00 **ABxx** <u>xx</u>12

 Coding:
 B12
 B13
 B14

 Hex
 xx
 xx
 00

# 7.2 User controlled PLMN selector handling

[...]

# 7.2.2 UE recognising the priority order of the User controlled PLMN selector list with the same access technology.

# 7.2.2.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNwACT}$ . Update and deletion of UPLMNs may be performed by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.2.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority order of the UPLMNs in the preferred list on the USIM.

• TS 22.011, subclause 3.2.2.

# 7.2.2.3 Test purpose

To verify that the UPLMN with the higher priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the UPLMN with the lower priority when the UE performs a network selection.

# 7.2.2.4 Method of test

# 7.2.2.4.1 Initial conditions

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/033/0001.

- RAI (MCC/MNC/LAC/RAC): 244/033/0001/05.

Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/034/0001.

- RAI (MCC/MNC/LAC/RAC): 244/034/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

# EF<sub>PLMNwACT</sub> (UPLMN Selector with Access Technology)

Logically: 1<sup>st</sup> PLMN: 244 081 (MCC MNC)

 $\begin{array}{lll} 1^{st} \, ACT: & UTRAN \\ 2^{nd} \, PLMN: & 244 \, 081 \\ 2^{nd} \, ACT & GSM \end{array}$ 

		3 <sup>rd</sup> 1	PLMN: ACT PLMN: ACT	244 ( UTR 244 ( GSM	AN 082										
		10 <sup>th</sup> 11 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup>	PLMN: ACT PLMN: ACT ACT PLMN: ACT ACT	UTR 244 ( UTR	AN 034 AN 033										
Coding:	B1	B2	ВЗ	B4	B5	B6	B7	B8	В9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	42	14	80	00	80	42	24	80	80	00
	B16 42	B17 24	B18 80	B19 00	B20 80										
	B46 42	B47 84	B48 00	B49 80	B50 00	B51 42	B52 44	B53 30	B54 80	B55 00	B56 42	B57 34	B58 30	B59 80	B60 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.2.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/034 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC):244/034/0001

TMSI: "34567890"

II During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with the following values:

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE with some of the following values:

LAI (MCC/MNC/LAC): 244/034/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After passing through the authentication procedure and after receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.2.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/034 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 3) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244 LAI-MNC: 034

LAI-MNC: 034

TMSI: "34567890"

Coding: B2 В3 **B**5 B6 B8 B10 B11 **B**1 B4 **B7 B9** Hex 34 56 78 90 42 44 30 XX 00 XX XX

### For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 034 P-TMSI: "34567890"

P TMSI signature value: "AB1234"												
]	Coding: Hex	B1 34	B2 56	B3 78	B4 90	B5 <u>xx</u> AB	B6 <u>xx</u> 42	B7 <u>xx</u> 34	B8 42	B9 44	B10 30	B11 xx
	Coding: Hex	B12 xx	B13 xx	B14 00								
	гэ											

# [...]

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

# 7.3.1.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>OPLMNwACT</sub>. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

I.registration procedures for UEs supporting CS or

- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.3.1.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclause 4.2.53.

# 7.3.1.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in EF<sub>OPLMNwACT</sub>) takes precedence over the OPLMN with the lower priority when the UE performs a network selection.

#### 7.3.1.4 Method of test

### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### **EF<sub>OPLMNwACT</sub>** (**OPLMN Selector**)

Logically:	1 <sup>st</sup> PLMN:	254 012 (MCC MNC)
	1 <sup>st</sup> ACT	UTRAN
	2 <sup>nd</sup> PLMN:	254 011
	2 <sup>nd</sup> ACT	UTRAN
	3 <sup>rd</sup> PLMN:	254 002
	3 <sup>rd</sup> ACT:	UTRAN
	4 <sup>th</sup> PLMN:	254 003
	4 <sup>th</sup> ACT:	UTRAN
	5 <sup>th</sup> PLMN:	254 004
	5 <sup>th</sup> ACT:	UTRAN
	6 <sup>th</sup> PLMN:	254 005
	6 <sup>th</sup> ACT:	UTRAN
	7 <sup>th</sup> PLMN:	254 006
	7 <sup>th</sup> ACT:	UTRAN
	8 <sup>th</sup> PLMN:	254 007
	8 <sup>th</sup> ACT:	UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.1.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 254/012 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with following values:

LAI (MCC/MNC/LAC):254/012/0001

TMSI: "34567890"

to the UE.

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE.with following values:

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE.with some of the following values :

LAI (MCC/MNC): 254/012/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.3.1.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 254/012 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST. to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or

- III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 254

LAI-MNC: 012

TMSI: "34567890"

Coding: В1 B2 **B3 B4 B**5 B6 **B7** B8 **B9** B10 B11 Hex 56 78 90 24 10 XX ΧХ ΧХ 00

#### For UEs supporting (CS and PS) or (PS only):

#### **EF**<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 254 RAI-MNC: 012

P-TMSI: "34567890"

P TMSI signature value: "AB1234

Coding: **B**1 B2 **B3 B4 B**5 B6 В7 B8 **B9** B10 B11 Hex 56 78 90 **XXAB** xx12 **xx34** 52 24 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

# 7.3.2.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNWACT}$ .

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.3.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2.2;
- TS 31.102, subclauses 4.2.5 and 4.2.53.

# 7.3.2.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the OPLMN with a higher priority when the UE performs a network selection.

#### 7.3.2.4 Method of test

#### 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/010 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on , one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values:

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values:

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the

security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values :

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.3.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/010 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 010

TMSI: "34567890"

Coding: B2 B3 B11 В1 B4 B5 B6 B7 B8 B9 B10 34 56 78 90 42 04 10 NΩ XX XX XX

#### For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 244 RAI-MNC: 010

P-TMSI: "34567890"

P TMSI signature value: "AB1234"

Coding: B4 В8 B10 B11 B5 B6 B7 <u>xx</u>12 Hex 34 56 78 90 **XX**AB <u>xx</u>34 42 04 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.4 HPLMN search handling

# 7.4.1 UE recognising the search period of the HPLMN

# 7.4.1.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

# 7.4.1.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.1.4 Method of test

#### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:

- I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 246/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

B2 **B**3 B5 B6 Codina: R1 R4 R7 R۸ R9 B10 B11 Hex 12 34 56 78 42 16 80 00 XX ХX хx

#### For UEs supporting (CS and PS) or (PS only):

#### EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B2 ВЗ B6 B8 В9 B10 B11 B1 B4 B5 **B7** Hex 12 34 56 78 <u>xx</u>AB <u>xx</u>12 **xx34** 42 16 80 ХX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the HPLMN

# 7.4.2.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>HPLMNACT</sub>. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE accessing both UTRAN and GSM using either ID-1 or Plug-in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.2.4 Method of test

#### 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 246 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 16 80 80 00

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

a) The UE is powered on.

- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/081

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 246/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

## 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.
- NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.
- 5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

# EF<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

Coding: В1 B2 ВЗ В4 B5 В6 В7 B8 В9 B10 B11 Hex 12 34 56 78 42 16 80 XX XX ΧХ 00

# For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B1 B2 В3 В4 B5 B6 B7 B8 В9 B10 B11 <u>xx</u>AB <u>xx</u>34 Hex 12 34 56 78 42 16 80 <u>xx</u>12 XX

Coding: B12 B13 B14 Hex xx xx 00

# 7.5 Void

8-11 February, 2	2005													R-Form-v7.1
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Consequences if not approved:	Ж <mark>Т</mark>	here is	s a poss	ibility that	t MEs	will unf	airly	fail th	e test					
Clauses affected:	*	7.1.1.	5, 7.1.3	3.5, 7.2.2.	.5, 7.3	3.1.5, 7	.3.2.5	5, 7.4	.1.5, 7	7.4.2.5				
Other specs affected:	*	X	Test s	core spec pecification	ons	ons	X							
Other comments:	¥													

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

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

- 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

# 7 PLMN related tests

# 7.1 FPLMN handling

# 7.1.1 Adding FPLMN to the Forbidden PLMN list

# 7.1.1.1 Definition and applicability

A list of forbidden PLMNs stored in the USIM and providing storage for at least 4 entries is managed by the UE. In automatic PLMN selection mode the UE controls registration attempts to appropriate networks with respect to this list of forbidden PLMNs. As a result of a registration reject with the cause "PLMN not allowed" the UE stores the PLMN which rejected the update request in the USIM.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.1.1.2 Conformance requirement

- 1) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST during registration on CS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - II. in automatic PLMN selection mode the UE shall only attempt a ATTACH REQUEST during registration on PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM or
  - III. in automatic PLMN selection mode the UE shall only attempt a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS if it receives a BCCH containing a PLMN(MCC,MNC) that is not indicated in the EF<sub>FPLMN</sub> in the USIM.

#### Reference:

- TS 22.011, subclause 2.3;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 2) Depending on which domain the UE is going to be on, one of the following requirements should be fulfilled:
  - I. after receipt of a LOCATION UPDATE REJECT message during registration on CS with the cause "PLMN not allowed" the Terminal shall update the  $EF_{FPLMN}$  in the USIM or
  - II. after receipt of a ATTACH REJECT message during registration on PS with the cause "PLMN not allowed" the Terminal shall update the  $\mathrm{EF}_{\mathrm{FPLMN}}$  in the USIM or
  - III. after receipt of a LOCATION UPDATING REJECT and/or ATTACH REJECT message during registration on CS/PS with the cause "PLMN not allowed" the Terminal shall update the EF<sub>FPLMN</sub> in the USIM.

#### Reference:

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclauses 5.1.1 and 5.2.7.
- 3) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - after registration on CS the USIM shall contain the correct TMSI and location information received by the UE or
  - II. after registration on PS the USIM shall contain the correct P-TMSI and routing information received by the UE or
  - III. after registration on CS/PS the USIM shall contain the correct TMSI, P-TMSI, location information and routing information received by the UE.

#### Reference:

- TS 31.102, subclauses 5.1.2, 5.2.5 and 5.2.6;
- TS 21.111, subclause 10.1.

# 7.1.1.3 Test purpose

- To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF<sub>FPLMN</sub> on the USIM.
- 2) To verify that the EF<sub>FPLMN</sub> is correctly updated by the Terminal after receipt of a
  - LOCATION UPDATING REJECT message with cause "PLMN not allowed" during registration on CS or
  - II. ATTACH REJECT message with cause "PLMN not allowed" during registration on PS or
  - III. LOCATION UPDATING REJECT and/or ATTACH REJECT message with cause "PLMN not allowed" during registration on CS/PS.
- 3) To verify that
  - I. the EF<sub>LOCI</sub> has been correctly updated by the Terminal during registration on CS or.
  - II. the EF<sub>PSLOCI</sub> has been correctly updated by the Terminal during registration on PS or.
  - III. the EF<sub>LOCI</sub> and EF<sub>PSLOCI</sub> have been correctly updated by the Terminal during registration on CS/PS.

#### 7.1.1.4 Method of test

#### 7.1.1.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/002/0001.

- RAI (MCC/MNC/LAC/RAC): 234/002/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

#### $EF_{IMSI}$ (IMSI)

Logically: 246081111111111

Coding:	B1	B2	В3	B4	B5	B6	B7	B8	B9
Hex									

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 007 LAI-LAC: 0000

TMSI: "32547698"

Coding: **B**1 B2 **B**3 B4 B5 B6 B7 B8 B9 **B10** B11 74 00 00 32 54 76 98 32 00 00 FF Hex

## EF<sub>PSLOCI</sub> (Packet Switched location Information)

Logically: RAI-MCC: 234

RAI-MNC: 007 RAI-LAC: 0000 RAI-RAC: 05

P-TMSI: "32547698"

P-TMSI signature value: "112233"

B2 **B**3 B4 **B**5 B6 B8 **B9** B10 Coding: **B**1 B7 **B11** Hex 32 54 76 98 11 22 33 32 74 00 00

> B12 B13 B14 00 05 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.1.1.4.2 Procedure

a) The UE is powered on.

b) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/003

The USS then resumes RF output on the BCCH.

c) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/004

The USS then resumes RF output on the BCCH.

d) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

PLMN (MCC/MNC): 234/005

The USS then resumes RF output on the BCCH.

e) The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/007/0001

RAI (MCC/MNC/LAC/RAC): 234/007/0001/05

The USS then resumes RF output on the BCCH.

- f) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS sends LOCATION UPDATING REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS sends ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS sends LOCATION UPDATING REJECT and/or ATTACH REJECT to the UE with cause "PLMN Not Allowed", followed by RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.

The USS stops all RF output on the BCCH for a long enough period of time to cause a cell reselection procedure in the UE. The BCCH is changed to contain:

LAI (MCC/MNC/LAC): 234/008/0001

RAI (MCC/MNC/LAC/RAC): 234/008/0001/05

The USS then resumes RF output on the BCCH.

- h) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- i) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

I. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with:

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

II. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC):234/008/0001

TMSI: "43658709"

RAI (MCC/MNC/LAC/RAC): 234/008/000/05

P-TMSI: "43658709"

P-TMSI signature value "443322"

- j) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- k) The UE is soft powered down.

# 7.1.1.5 Acceptance criteria

- 1) After each of the steps a) to d) the UE shall not attempt a LOCATION UPDATE and not a ATTACH procedure..
- 2) After step f) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USSduring registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step h) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 4) After step i) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 5) After step k) the USIM shall contain the following values:

# EF<sub>FPLMN</sub> (Forbidden PLMNs)

Logical	ly:	PLMN1	: 23	4 002 (M	ICC MNO	C)						
		PLMN2	2: 23	4 003								
		PLMN3	3: 23	4 004								
		PLMN <sup>2</sup>	l: 23	4 005								
		PLMN5	5: 23	4 006								
		PLMNe	5: 23	4 007								
Coding: Hex	B1 32	B2 24	B3 00	B4 32	B5 34	B6 00	B7 32	B8 44	B9 00	B10 32	B11 54	B12 00
	B13 32	B14 64	B15 00	B16 32	B17 74	B18 00						

For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 234

LAI-MNC: 008

TMSI: "43658709"

Coding: **B**1 B2 **B3 B4 B**5 B6 **B7** B8 **B9 B10** B11 84 43 87 09 32 00 Hex 65 XX ХX XX 00

#### For UEs supporting (CS and PS) or (PS only):

## EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 008

P-TMSI: "43658709"

P TMSI signature value: "443322"

Coding: В1 B2 В3 B4 **B**5 B6 B7 **B8 B9** B10 B11 Hex 43 65 87 09 <u>xx</u>44 <u>xx</u>33 <u>xx</u>22 32 84 00 XX

Coding: B12 B13 B14 Hex xx xx 00

[...]

# 7.1.3 UE deleting forbidden PLMNs

# 7.1.3.1 Definition and applicability

In manual PLMN selection mode the UE allows registration attempts to all available PLMNs, including forbidden PLMNs (as indicated by the forbidden PLMN list on the USIM). As a result of a successful registration procedure onto a PLMN which is in the forbidden PLMN list, the forbidden PLMN list is automatically updated by the UE.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.1.3.2 Conformance requirement

- 1) Depending on which domain the UE will be registered on, one of the following requirements should be fulfilled:
  - I. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING attempt during registration on CS to a PLMN which is in the forbidden PLMN list.or
  - II. In manual PLMN selection mode the UE shall be able to perform a ATTACH attempt during registration on PS to a PLMN which is in the forbidden PLMN list or
  - III. In manual PLMN selection mode the UE shall be able to perform a LOCATION UPDATING and/or ATTACH attempt during registration on CS/PS to a PLMN which is in the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.2.

- 2) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. after receipt of LOCATION UPDATING ACCEPT message during registration on CS the UE shall delete the forbidden PLMN from the forbidden PLMN list or.
  - II. after receipt of ATTACH ACCEPT message during registration on PS the UE shall delete the forbidden PLMN from the forbidden PLMN list or
  - III. after receipt of LOCATION UPDATING ACCEPT and/or ATTCH ACCEPT message during registration on CS/PS the UE shall delete the forbidden PLMN from the forbidden PLMN list.
  - TS 22.011, subclause 3.2.2.4.

# 7.1.3.3 Test purpose

- 1) To verify that the UE is able to perform
  - I. a LOCATION UPDATING REQUEST during registration on CS on a forbidden PLMN in manual PLMN selection modeor
  - II. a ATTACH REQUEST during registration on PS on a forbidden PLMN in manual PLMN selection mode or
  - III. a LOCATION UPDATING REQUEST and/or ATTACH REQUEST during registration on CS/PS on a forbidden PLMN in manual PLMN selection mode:
- 2) To verify that the UE after a successful registration attempt deletes the PLMN in the EF<sub>FPLMN</sub> on the USIM.

#### 7.1.3.4 Method of test

#### 7.1.3.4.1 Initial conditions

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 234/005/0001.

- RAI (MCC/MNC/LAC/RAC): 234/005/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### **EF<sub>FPLMN</sub>** (Forbidden PLMNs)

Logica	ılly:	PLMN PLMN PLMN PLMN PLMN PLMN	I2:     6       I3:     6       I4:     6       I5:     2	empty empty empty empty 234 005 (J	MCC MN	IC)						
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 32	B14 54	B15 00	B16 FF	B17 FF	B18 FF						

The UICC is installed into the Terminal and the UE is set to manual PLMN selection mode.

#### 7.1.3.4.2 Procedure

- a) The UE is powered on.
- b) PLMN with MCC/MNC of 234/005 is manually selected.
- c) After receipt of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with to the UE:

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE with:

LAI (MCC/MNC/LAC): 234/005/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC): 234/005/0001/05

P-TMSI: "12345678"

P-TMSI signature value "AB1234"

- e) After passing through the authentication procedure and after receipt of
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- f) The UE is soft powered down.

## 7.1.3.5 Acceptance criteria

- 1) After step c) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or

- II. ATTACH REQUEST during registration on PS or
- III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 2) After step d) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 3) After step f) the USIM shall contain the following values:

#### EF<sub>FPLMN</sub> (Forbidden PLMNs)

Logica	ılly:	PLMN PLMN PLMN PLMN PLMN PLMN	2: e: 4: e: 4: e: 5: e: 4: e:	mpty mpty mpty mpty mpty mpty								
Coding: Hex	B1 FF	B2 FF	B3 FF	B4 FF	B5 FF	B6 FF	B7 FF	B8 FF	B9 FF	B10 FF	B11 FF	B12 FF
	B13 FF	B14 FF	B15 FF	B16 FF	B17 FF	B18 FF						

## For UEs supporting CS only or CS/PS:

#### **EF**<sub>LOCI</sub> (Location Information)

LAI-MCC: 234 LAI-MNC: 005

TMSI: "12345678"

B2 ВЗ В6 Coding: В1 B4 B5 В7 B8 В9 B10 B11 34 56 78 54 00 00 Hex XX ΧХ ΧХ

#### For UEs supporting PS only or CS/PS:

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 234 RAI-MNC: 005

P-TMSI: "12345678"

P-TMSI signature value: "AB1234

Coding: B2 ВЗ B4 B10 **B**1 B5 B6 B7 B8 **B9** B11 Hex 12 34 56 78 **xx34** 32 00 **ABxx** <u>xx</u>12

 Coding:
 B12
 B13
 B14

 Hex
 xx
 xx
 00

# 7.2 User controlled PLMN selector handling

[...]

# 7.2.2 UE recognising the priority order of the User controlled PLMN selector list with the same access technology.

# 7.2.2.1 Definition and applicability

The User controlled PLMN selector list gives in priority order the preferred UPLMNs on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNwACT}$ . Update and deletion of UPLMNs may be performed by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.2.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority order of the UPLMNs in the preferred list on the USIM.

• TS 22.011, subclause 3.2.2.

# 7.2.2.3 Test purpose

To verify that the UPLMN with the higher priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the UPLMN with the lower priority when the UE performs a network selection.

## 7.2.2.4 Method of test

# 7.2.2.4.1 Initial conditions

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/033/0001.

- RAI (MCC/MNC/LAC/RAC): 244/033/0001/05.

Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/034/0001.

- RAI (MCC/MNC/LAC/RAC): 244/034/0001/05.

Access control: unrestricted.

The default UICC is used with the following exception:

# EF<sub>PLMNwACT</sub> (UPLMN Selector with Access Technology)

Logically: 1<sup>st</sup> PLMN: 244 081 (MCC MNC)

 $\begin{array}{lll} 1^{st} \, ACT: & UTRAN \\ 2^{nd} \, PLMN: & 244 \, 081 \\ 2^{nd} \, ACT & GSM \end{array}$ 

		3 <sup>rd</sup> 1	PLMN: ACT PLMN: ACT	244 ( UTR 244 ( GSM	AN 082										
		•••••	••												
		10 <sup>th</sup> 11 <sup>th</sup> 11 <sup>th</sup> 12 <sup>th</sup>	PLMN: ACT PLMN: ACT ACT PLMN: ACT ACT	UTR 244 ( UTR	AN 034 AN 033										
Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	B14	B15
Hex	42	14	80	80	00	42	14	80	00	80	42	24	80	80	00
	B16 42	B17 24	B18 80	B19 00	B20 80										
	B46 42	B47 84	B48 00	B49 80	B50 00	B51 42	B52 44	B53 30	B54 80	B55 00	B56 42	B57 34	B58 30	B59 80	B60 00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.2.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/034 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with the following values:

LAI (MCC/MNC/LAC):244/034/0001

TMSI: "34567890"

II During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE with the following values:

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE with some of the following values:

LAI (MCC/MNC/LAC): 244/034/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/034/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After passing through the authentication procedure and after receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.2.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/034 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 3) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244 LAI-MNC: 034

LAI-MNC: 034

TMSI: "34567890"

Coding: B2 В3 **B**5 B6 B8 B10 B11 **B**1 B4 **B7 B9** Hex 34 56 78 90 42 44 30 XX 00 XX XX

#### For UEs supporting (CS and PS) or (PS only):

## EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 244

RAI-MNC: 034 P-TMSI: "34567890"

	P TMSI signature value: "AB1234"											
1	Coding: Hex	B1 34	B2 56	B3 78	B4 90	B5 <u>xx</u> AB	B6 <u>xx</u> 42	B7 <u>xx</u> 34	B8 42	B9 44	B10 30	B11 xx
	Coding: Hex	B12 xx	B13 xx	B14 00								
	гı											

# [...]

# 7.3 Operator controlled PLMN selector handling

# 7.3.1 UE recognising the priority order of the Operator controlled PLMN selector list.

# 7.3.1.1 Definition and applicability

The Operator controlled PLMN selector list gives in priority order the preferred OPLMNs on which the UE shall register if no network of the User controlled PLMN selector list is available. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>OPLMNwACT</sub>. Update and deletion of OPLMNs shall not be possible by the subscriber by the use of the PIN.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

I.registration procedures for UEs supporting CS or

- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

## 7.3.1.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2;
- TS 31.102, subclause 4.2.53.

# 7.3.1.3 Test purpose

To verify that the OPLMN with the higher priority (defined by its position in EF<sub>OPLMNwACT</sub>) takes precedence over the OPLMN with the lower priority when the UE performs a network selection.

#### 7.3.1.4 Method of test

#### 7.3.1.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

- Attach/detach: disabled.
- LAI (MCC/MNC/LAC): 254/011/0001.

- RAI (MCC/MNC/LAC/RAC): 254/011/0001/05.

- Access control: unrestricted.

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/012/0001.

- RAI (MCC/MNC/LAC/RAC): 254/012/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### **EF<sub>OPLMNwACT</sub>** (**OPLMN Selector**)

Logically:	1 <sup>st</sup> PLMN:	254 012 (MCC MNC)
	1 <sup>st</sup> ACT	UTRAN
	2 <sup>nd</sup> PLMN:	254 011
	2 <sup>nd</sup> ACT	UTRAN
	3 <sup>rd</sup> PLMN:	254 002
	3 <sup>rd</sup> ACT:	UTRAN
	4 <sup>th</sup> PLMN:	254 003
	4 <sup>th</sup> ACT:	UTRAN
	5 <sup>th</sup> PLMN:	254 004
	5 <sup>th</sup> ACT:	UTRAN
	6 <sup>th</sup> PLMN:	254 005
	6 <sup>th</sup> ACT:	UTRAN
	7 <sup>th</sup> PLMN:	254 006
	7 <sup>th</sup> ACT:	UTRAN
	8 <sup>th</sup> PLMN:	254 007
	8 <sup>th</sup> ACT:	UTRAN

Coding:	B01	B02	B03	B04	B05	B06	B07	B08	B09	B10
Hex	52	24	10	80	00	52	14	10	80	00
	B11	B12	B13	B14	B15	B16	B17	B18	B19	B20
	52	24	00	80	00	52	34	00	80	00
	B21	B22	B23	B24	B25	B26	B27	B28	B29	B30
	52	44	00	80	00	52	54	00	80	00
	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40
	52	64	00	80	00	52	74	00	80	00

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.1.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 254/012 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT to the UE with following values:

LAI (MCC/MNC/LAC):254/012/0001

TMSI: "34567890"

to the UE.

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT to the UE.with following values:

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT to the UE.with some of the following values :

LAI (MCC/MNC): 254/012/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 254/012/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

## 7.3.1.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 254/012 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST. to the USS during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or

- III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS..
- 4) After step e) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 254

LAI-MNC: 012

TMSI: "34567890"

Coding: В1 B2 **B3 B4 B**5 B6 **B7** B8 **B9** B10 B11 Hex 56 78 90 24 10 XX ΧХ ΧХ 00

#### For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 254 RAI-MNC: 012

P-TMSI: "34567890"

P TMSI signature value: "AB1234

Coding: **B**1 B2 **B3 B4 B**5 B6 В7 B8 **B9** B10 B11 Hex 56 78 90 **XXAB** xx12 **xx34** 52 24 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.3.2 UE recognising the priority order of the User controlled PLMN selector over the Operator controlled PLMN selector list.

## 7.3.2.1 Definition and applicability

The User controlled PLMN selector list has a higher priority as the OPLMN selector list on which the UE shall register. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the  $EF_{PLMNWACT}$ .

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.3.2.2 Conformance requirement

When registering onto a VPLMN the UE shall take into account the priority of UPLMNs first before the OPLMNs in the preferred list on the USIM.

- TS 22.011, subclause 3.2.2.2;
- TS 31.102, subclauses 4.2.5 and 4.2.53.

# 7.3.2.3 Test purpose

To verify that the User controlled PLMN with a lower priority (defined by its position in  $EF_{PLMNwACT}$ ) takes precedence over the OPLMN with a higher priority when the UE performs a network selection.

#### 7.3.2.4 Method of test

#### 7.3.2.4.1 Initial conditions

For this test a USS is needed.

The USS transmits on two BCCHs, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 254/001/0001.

- RAI (MCC/MNC/LAC/RAC): 254/001/0001/05.

Access control: unrestricted.

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/010/0001.

- RAI (MCC/MNC/LAC/RAC): 244/010/0001/05.

- Access control: unrestricted.

The default UICC is used.

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.3.2.4.2 Procedure

- a) The UE is powered on.
- b) After receipt on the cell related to the BCCH transmitting MCC/MNC 244/010 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on , one of the following requirements should be fulfilled:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values:

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values:

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the

security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values :

LAI (MCC/MNC/LAC): 244/010/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/010/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

- d) After receipt of a
  - I. TMSI REALLOCATION COMPLETE during registration on CS from the UE, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
  - II. ATTACH COMPLETE during registration on PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE during registration on CS/PS from the UE, the USS sends RRC CONNECTION RELEASE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The UE is soft powered down.

# 7.3.2.5 Acceptance criteria

- 1) After step a) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 244/010 to the USS.
- 2) After step b) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step c) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE during registration on CS or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) After step e) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 244

LAI-MNC: 010

TMSI: "34567890"

Coding: B2 B3 B11 В1 B4 B5 B6 B7 B8 B9 B10 34 56 78 90 42 04 10 NΩ XX XX XX

#### For UEs supporting (CS and PS) or (PS only):

#### **EF<sub>PSLOCI</sub>** (Location Information)

Logically: RAI-MCC: 244 RAI-MNC: 010

P-TMSI: "34567890"

P TMSI signature value: "AB1234"

Coding: B4 B8 B10 B11 B5 B6 B7 <u>xx</u>12 Hex 34 56 78 90 **XX**AB <u>xx</u>34 42 04 10

Coding: B12 B13 B14 Hex xx xx 00

# 7.4 HPLMN search handling

# 7.4.1 UE recognising the search period of the HPLMN

# 7.4.1.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration.

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

This test applies to Terminals accessing UTRAN.

# 7.4.1.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM.

- TS 22.011, subclauses 3.2.2 and 3.2.2.5.
- TS 24.008, subclause 4.7.5

## 7.4.1.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.1.4 Method of test

#### 7.4.1.4.1 Initial conditions

For this test a UTRAN USS is needed.

The USS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- RAI (MCC/MNC/LAC/RAC): 244/081/0001/05.

- Access control: unrestricted.

After the registration of UE the USS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC shall be used with the following exception:

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC shall be installed into the Terminal and the UE shall be set to automatic PLMN selection mode.

#### 7.4.1.4.2 Procedure

- a) The UE shall be powered on.
- b) After receipt of a RRC CONNECTION REQUEST from the UE, the USS shall send RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS.
- c) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC): 244/081/0001

TMSI: "34567890"

RAI (MCC/MNC/LAC/RAC) 244/081/0001/05

P-TMSI "34567890"

P-TMSI signature value "AB1234"

d) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:

- I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- e) The USS starts to send on the second BCCH with the MCC/MNC 246/081. An internal timer shall start to run.
- f) After receipt on the cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ROUTING AREA UPDATE ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ROUTING AREA UPDATE ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ROUTING AREA UPDATE COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.

- III. After receipt of a TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

# 7.4.1.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS or.
  - II. ROUTING AREA UPDATE REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ROUTING AREA UPDATE REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS or
  - II. ROUTING AREA UPDATE COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ROUTING AREA UPDATE COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.

NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.

5) After step i) the USIM shall contain the following values:

#### For UEs supporting (CS and PS) or (CS only):

#### **EF**<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

B2 **B**3 B5 B6 Codina: R1 R4 R7 R۸ R9 B10 B11 Hex 12 34 56 78 42 16 80 00 XX ХX хx

#### For UEs supporting (CS and PS) or (PS only):

#### EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B2 ВЗ B6 B8 В9 B10 B11 B1 B4 B5 **B7** Hex 12 34 56 78 <u>xx</u>AB <u>xx</u>12 **xx34** 42 16 80 ХX

Coding: B12 B13 B14 Hex xx xx 00

# 7.4.2 GSM/UMTS dual mode UEs recognising the search period of the HPLMN

# 7.4.2.1 Definition and applicability

The HPLMN list gives in priority order the Home PLMN on which the UE shall register first. The Radio Access Technology identifier defines the Radio network in which the UE shall register. The list is stored on the USIM in the EF<sub>HPLMNACT</sub>. The HPLMN search period gives the time interval in which the UE shall search for a possible HPLMN registration. To avoid a duplication of a test.

This test applies to a GSM/UMTS dual mode UE accessing both UTRAN and GSM using either ID-1 or Plug-in UICC.

To avoid a duplication of tests, this test supersede the previous test case (7.4.1).

The registration attempts initiated by the UE depends on UEs capabilities and can be one of the following:

- I. registration procedures for UEs supporting CS or
- II. registration procedures for UEs supporting PS or
- III. registration procedures for UEs supporting CS/PS

# 7.4.2.2 Conformance requirement

After registered onto a VPLMN the UE shall take into account the HPLMN search period timer and the priority order of the HPLMNs in the preferred list on the USIM including the Access Technology Identifier.

• TS 22.011, subclauses 3.2.2 and 3.2.2.5.

# 7.4.2.3 Test purpose

To verify that the HPLMN timer is read and the HPLMN with the higher priority (defined by its position in EF<sub>HPLMNwACT</sub>) takes precedence over the VPLMN in which the UE is currently registered in.

#### 7.4.2.4 Method of test

#### 7.4.2.4.1 Initial conditions

For this test both a GSM SS and a UTRAN USS is needed.

The GSM SS transmits on BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 244/081/0001.

- Access control: unrestricted.

After the registration of UE the GSM SS transmits on a second BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

Access control: unrestricted.

At the same time as the SS sends on a second BCCH, the UMTS USS transmit on BCCH, with the following network parameters:

Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- RAI (MCC/MNC/LAC/RAC): 246/081/0001/05.

- Access control: unrestricted.

The default UICC is used with the following exception:

#### EF<sub>HPLMNwACT</sub> (HPLMN selector with Access Technology)

Logically: Set to MCC 246 and MNC 081

Set to UTRAN

Coding: B1 B2 B3 B4 B5 Hex 42 16 80 80 00

#### EF<sub>HPLMN</sub> (HPLMN Search period)

Logically: set to 6minutes

Coding: B1 Hex 01

The UICC is installed into the Terminal and the UE is set to automatic PLMN selection mode.

#### 7.4.2.4.2 Procedure

a) The UE is powered on.

- b) After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- c) After receipt of a LOCATION UPDATE REQUEST from the UE, the SS sends LOCATION UPDATE ACCEPT with:

LAI (MCC/MNC): 244/081

TMSI: "34567890"

to the UE.

- d) After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- e) The SS starts to send on the second BCCH with the MCC/MNC 246/081 and the USS starts to send with the Same MCC/MNC. An internal timer shall start to run.
- f) After receipt on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 of a RRC CONNECTION REQUEST from the UE, the USS sends RRC CONNECTION SETUP to the UE, followed by RRC CONNECTION SETUP COMPLETE sent by the UE to the USS. The internal timer is stopped.
- g) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. During registration on CS and after receipt of a LOCATION UPDATING REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT with the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

II. During registration on PS and after receipt of a ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends ATTACH ACCEPT with the following values to the UE:

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

III. During registration on CS/PS and after receipt of a LOCATION UPDATING REQUEST and/or ATTACH REQUEST from the UE, the USS initiates authentication, starts integrity by using the security procedure and sends LOCATION UPDATING ACCEPT and/or ATTACH ACCEPT with some of the following values to the UE:

LAI (MCC/MNC/LAC):246/081/0001

TMSI: "12345678"

RAI (MCC/MNC/LAC/RAC) 246/081/0001/05

P-TMSI "12345678"

P-TMSI signature value "AB1234"

- h) Depending on which domain the UE is going to be registered on, one of the following sequences will be passed through:
  - I. After receipt of a TMSI REALLOCATION COMPLETE from the UE during registration on CS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - II. After receipt of a ATTACH COMPLETE from the UE during registration on PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS or.
  - III. After receipt of a TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE from the UE during registration on CS/PS, the USS sends RRC CONNECTION RELEASE to the UE, followed by RRC CONNECTION RELEASE COMPLETE sent by the UE to the USS.
- i) The UE is soft powered down.

## 7.4.2.5 Acceptance criteria

- 1) After step e) the UE shall send an RRC CONNECTION REQUEST on the UTRAN-cell related to the BCCH transmitting MCC/MNC 246/081 to the USS.
- 2) After step e) the UE shall send
  - I. LOCATION UPDATING REQUEST to the USS during registration on CS, or
  - II. ATTACH REQUEST during registration on PS or
  - III. LOCATION UPDATING REQUEST and/or ATTACH REQUEST to the USS during registration on CS/PS.
- 3) After step g) the UE shall respond with
  - I. TMSI REALLOCATION COMPLETE to the USS during registration on CS, or
  - II. ATTACH COMPLETE during registration on PS or
  - III. TMSI REALLOCATION COMPLETE and/or ATTACH COMPLETE to the USS during registration on CS/PS.
- 4) The value of the internal timer shall not exceed 6 minutes.
- NOTE: To take the systems processing time into account, the value of the internal timer may allowed to be a guard time of 10% greater than the required 6minutes.
- 5) After step i) the USIM shall contain the following values:

# For UEs supporting (CS and PS) or (CS only):

# EF<sub>LOCI</sub> (Location Information)

Logically: LAI-MCC: 246

LAI-MNC: 081

TMSI: "12345678"

Coding: В1 B2 ВЗ В4 B5 В6 В7 B8 В9 B10 B11 Hex 12 34 56 78 42 16 80 XX XX ΧХ 00

# For UEs supporting (CS and PS) or (PS only):

# EF<sub>PSLOCI</sub> (Location Information)

Logically: RAI-MCC: 246

RAI-MNC: 081 P-TMSI: "12345678"

P TMSI signature value: "AB1234"

Coding: B1 B2 В3 В4 B5 B6 В7 B8 В9 B10 B11 <u>xx</u>AB <u>xx</u>34 Hex 12 34 56 78 42 16 80 <u>xx</u>12 XX

Coding: B12 B13 B14 Hex xx xx 00

# 7.5 Void

(revised T3-050104)

		CHAN	IGE REQ	UES <sup>.</sup>	CR-Form-v7.1				
*	31.121	CR <mark>050</mark>	жrev	<b>1</b> **	Current version: 3.11.0 **				
For <b>HELP</b> on using this form, see bottom of this page or look at the popular text over the \mathbb{H} symbols									

<b>31</b>	.121 CR <mark>050                                  </mark>	Current version: 3.11.0 <sup>#</sup>
For <u>HELP</u> on using	this form, see bottom of this page or look at the p	pop-up text over the 光 symbols.
Proposed change affec	ts: UICC apps≋ ME X Radio Acc	ess Network Core Network
Troposed change affec	is. Glob appose in the Kadio Acco	COIC NELWORK
Title: 第 Co	rrection to the "Maximum frequency of ACM upda	ating" test.
Source: % T3		
000100.		
Work item code:		Date: 第 10/02/2005
Category: Ж F	F	Release: # R99
Use	one of the following categories:	Use one of the following releases:
	F (correction)	Ph2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release) B (addition of feature),	R96 (Release 1996) R97 (Release 1997)
	C (functional modification of feature)	R98 (Release 1997)
	D (editorial modification)	R99 (Release 1999)
	iled explanations of the above categories can	Rel-4 (Release 4)
	ound in 3GPP TR 21.900.	Rel-5 (Release 5)
		Rel-6 (Release 6)
		Rel-7 (Release 7)
December shares 90	The "Mexicon for some of ACM and the all the state	
Reason for change: #	The "Maximum frequency of ACM updating" test do ACM (Accumulated Call Meter) is updated on termi	
	The test should only be monitoring the time intervals commands during a call.	s between successive INCREMENT
	The test needs to be modified to take into account up terminated.	odates of the ACM once the call is
	See TS 22.024 subclause 4.3 h for further information	on
	"6.4.2.1 Definition and applicability" currently cor This has been clarified.	ntradicts itself as to the interval length.
	During a call, the specified minimum time interval the of either 5 seconds or the time interval specified in p	
Summary of change: ₩	This change takes into account that the ACM can be wait for the elapse of the time interval specified.	updated on termination of call and not
	Correction of EF UST due to incorrect implementation	on of earlier CR
Consequences if	There is a strong possibility that MEs will unfairly fa	ail the test

Clauses affected:	$\aleph$	6	.4.2	.1, 6.4.2.3, 6.4.2.4.2 & 6.4.2.5	5	
		Υ	N			
Other specs	${\mathbb H}$		X	Other core specifications	$\mathfrak{R}$	
affected:		X		Test specifications		TS 51.010-1 (TC 27.21.2) (to be dealt
						with at GERAN3 (5-7 April)).
			X	O&M Specifications		
			7.	Cam Opcomoducio		
Other comments:	$\mathfrak{H}$	Т	his	CR also contains approved c	hang	ges (T3-040578) which were incorrectly
		in	nple	emented (Enabled Services T	able	available in 6.4.2.4.1)

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

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

- 1) Fill out the above form. The symbols above marked \( \mathcal{H} \) 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 <a href="ftp://ftp.3gpp.org/specs/">ftp://ftp.3gpp.org/specs/</a> 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.

# 6.4.2 Maximum frequency of ACM updating

# 6.4.2.1 Definition and applicability

<u>During a call</u>, <u>The ACM shall be updated at the end of every interval.</u> where the interval length is the greater of either 5 s or the value given by parameter e2 (part of the Facility Information Element). The Terminal shall update the ACM not more frequently than once every 5 s, even if the interval is less than 5 s. More frequent updating may affect the USIMs read/write cycles.

This test applies to Terminals accessing UTRAN. Besides of that, this test is applicable only to those Terminals supporting AoCC and CS.

## 6.4.2.2 Conformance requirement

The ACM shall be incremented when the CCM is incremented or once every 5 s, whichever is the longer period.

When used the value '1C' shall be used as SFI for EF<sub>ACM</sub>, for compatibility reasons the terminal shall accept other values.

#### Reference:

- TS 22.024[8], subclause 4.3, part h;
- TS 31.102 [4], subclauses 4.2.9, 5.3.4 and Annex H.1.

#### 6.4.2.3 Test purpose

- 1) To verify that the <u>Terminal, during a call, increments the ACM every 5 s when e2 is less or equal to 5 sinterval between increments is 5 s.</u>
- 2) To verify that the Terminal is able to handle other values than '1C' as SFI of EF<sub>ACM</sub>.

#### 6.4.2.4 Method of test

#### 6.4.2.4.1 Initial conditions

The Terminal shall be connected to the USIM simulator, with all elementary files coded as default with the exception of:

#### **EF**<sub>UST</sub> (USIM Service Table)

Logically: Local Phone Book available.

User controlled PLMN selector available.

Fixed dialling numbers available. The GSM Access available.

The Group Identifier level 1 and level 2 not available.

AoC available.

Service n 33 (Packed Switched Domain) shall be set to '1'

Enabled Services Table available!.

Coding: B1 B2 B3 B4 B5

binary xxxx xx11 xxx1 xxxx xxxx 1x00 xxxx x1xx xxxx 4xx1x1

The coding of EF<sub>UST</sub> shall conform with the capabilities of the USIM used.

## EF<sub>ACM</sub> (Accumulated call meter)

Logically: 50 units

The SFI of EF<sub>ACM</sub> shall be set to '18'.

EF<sub>ACMmax</sub> (Accumulated call meter maximum)

Logically: 150 units

The USS transmits on the BCCH, with the following network parameters:

- Attach/detach: disabled.

- LAI (MCC/MNC/LAC): 246/081/0001.

- Access control: unrestricted.

User Equipment:

- The UE is in MM-state "idle, updated".

#### 6.4.2.4.2 Procedure

- a) The UE is made to initiate a call. The call establishment shall be performed according to the procedures defined in TS34.108 [21], subclause 7.2.3.2.3 extended by the messages of the AoCC. The call is established with AoCC e-parameters sent in a Facility IE in the CONNECT message, as given below. The UE returns the AoCC acknowledgement after the reception of the CONNECT message. It is an implementation option whether the AoCC acknowledge is sent by the UE before or after the CONNECT ACKNOWLEDGE.
- b) The call is maintained for 90 s, then terminated by the USS. During the call, the USIM-simulator monitors the time intervals between successive INCREMENT commands. As the final INCREMENT command will have occurred as a result of call termination, the time interval calculated since the prior INCREMENT command shall be ignored.

Maximum Duration of Test:

2 minutes.

**Expected Sequence:** 

Step	Direction	Message	Comments
1	UE		The UE is made to initiate a call
2	UE -> USS	RRC CONNECTION REQUEST	
3	USS -> UE	RRC CONNECTION SETUP	
4	UE -> USS	RRC CONNECTION SETUP	
		COMPLETE	
5		CM SERVICE REQUEST	
6	USS -> UE	AUTHENTICATION REQUEST	MM procedure, to ensure the successful start of integrity in step 8
7	UE -> USS	AUTHENTICATION RESPONSE	
8	USS -> UE	SECURITY MODE COMMAND	RRC procedure, start of integrity is mandatory during call setup
9	UE -> USS	SECURITY MODE COMPLETE	
10	UE -> USS		
11		CALL PROCEEDING	
12		RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUP COMPLETE	
14		ALERTING	
15	USS -> UE	CONNECT	As default message except contains Facility IE with
			contents as indicated in i) below
			Either A or B branch is taken
A16		CONNECT ACKNOWLEDGE	
A17	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B16	UE -> USS	FACILITY	As default message except contains Facility IE with contents as indicated in ii) below
B17	UE -> USS	CONNECT ACKNOWLEDGE	, in the second of the second
18			call duration 90 s after CAI information sent by USS,
19		DISCONNECT	
20	UE -> USS		
21		RELEASE COMPLETE	
22		RRC CONNECTION RELEASE	All connections of RRC are released.
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	

Specific Message Contents:

i) **FACILITY Information Element** with **Invoke = ForwardChargeInformation** component type as defined in TS 24.080[17] subclauses 3.6.1 table 3.3.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 31.6.4..

The values of the e-parameters within the parameter part of the Facility Information Element shall be set as below:

e-parameters:

parameter: e1 e2 e3 e4 e5 e6 e7 value 1 1 1 0 0 0 0

Values shown in table are in the format and have units as in TS 22.024[8] clause 3.

**ii) FACILITY Information Element** with **Return Result** component type as defined in TS 24.080[17] subclause 3.6.1 table 3.4.

For ASN.1 description see default message contents in TS 51.010-1 [22], subclause 31.6.4..

# 6.4.2.5 Acceptance criteria

The UE shall, during a call, send INCREMENT commands to the USIM every 5 s.