

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	A	4.10.0	4.11.0	TEI
T3-050103	31.121	049		Rel-5	Correction of Operator controlled PLMN selector handling tests	A	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	A	4.10.0	4.11.0	TEI
T3-050106	31.121	052		Rel-5	Correction to the 'Maximum frequency of ACM updating' test	A	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":	A	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":	A	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	A	4.10.0	4.11.0	TEI
T3-050124	31.121	058		Rel-5	Correction of HPLMN Search Period tests	A	5.0.0	5.1.0	TIE

CHANGE REQUEST

31.121 CR 047 # rev - # 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 ME Radio Access Network Core Network

Title:	# CR 31.121, R99: Correction of Operator controlled PLMN selector handling tests		
Source:	# T3		
Work item code:	# TEI	Date:	# 08/02/2005
Category:	# F	Release:	# R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	Ph2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
	B (addition of feature),	R97 (Release 1997)	
	C (functional modification of feature)	R98 (Release 1998)	
	D (editorial modification)	R99 (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		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 7.3.2 are related to Operator controlled PLMN selector handling, though the EF UST does not state the support of this service.
Summary of change:	# Initial conditions of test cases 7.3.1 and 7.3.2 corrected
Consequences if not approved:	# UEs might unfairly fail the test cases 7.3.1 and 7.3.2.

Clauses affected:	# 7.3.1.4.1, 7.3.2.4.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	#	X	#	
Y	N						
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Test specifications	#	X	#			
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> O&M Specifications	#	X	#			
#	X						
Other comments:	#						

How to create CRs using this form:

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

- 1) Fill out the above form. The symbols above marked # contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change reques

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_{UST} (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 'I'
Enabled Services Table available
Operator controlled PLMN selector available

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

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

EF_{OPLMNwACT} (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)
1st ACT: UTRAN
2nd PLMN: 254 011
2nd ACT: UTRAN
3rd PLMN: 254 002
3rd ACT: UTRAN
4th PLMN: 254 003
4th ACT: UTRAN

5th PLMN: 254 004
 5th ACT: UTRAN
 6th PLMN: 254 005
 6th ACT: UTRAN
 7th PLMN: 254 006
 7th ACT: UTRAN
 8th PLMN: 254 007
 8th 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_{U_{ST}} (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

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

The coding of EF_{U_{ST}} 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.

[..]

CHANGE REQUEST

31.121 CR 048 # rev - # Current version: 4.10.0

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

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

Title:	# CR 31.121, Rel-4: Correction of Operator controlled PLMN selector handling tests		
Source:	# T3		
Work item code:	# TEI	Date:	# 08/02/2005
Category:	# A	Release:	# Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	Ph2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
	B (addition of feature),	R97 (Release 1997)	
	C (functional modification of feature)	R98 (Release 1998)	
	D (editorial modification)	R99 (Release 1999)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	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 7.3.2 are related to Operator controlled PLMN selector handling, though the EF UST does not state the support of this service.
Summary of change:	# Initial conditions of test cases 7.3.1 and 7.3.2 corrected
Consequences if not approved:	# UEs might unfairly fail the test cases 7.3.1 and 7.3.2.

Clauses affected:	# 7.3.1.4.1, 7.3.2.4.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	#	X	#	
Y	N						
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Test specifications	#	X	#			
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> O&M Specifications	#	X	#			
#	X						
Other comments:	#						

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 reques

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_{UST} (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 'I'
Enabled Services Table available
Operator controlled PLMN selector available

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

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

EF_{OPLMNwACT} (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)
1st ACT: UTRAN
2nd PLMN: 254 011
2nd ACT: UTRAN
3rd PLMN: 254 002
3rd ACT: UTRAN
4th PLMN: 254 003
4th ACT: UTRAN

5th PLMN: 254 004
 5th ACT: UTRAN
 6th PLMN: 254 005
 6th ACT: UTRAN
 7th PLMN: 254 006
 7th ACT: UTRAN
 8th PLMN: 254 007
 8th 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_{U_{ST}} (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

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

The coding of EF_{U_{ST}} 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.

[..]

CR-Form-v7.1

CHANGE REQUEST

31.121 CR 049 # rev - # Current version: 5.0.0

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

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

Title:	# CR 31.121, Rel-5: Correction of Operator controlled PLMN selector handling tests		
Source:	# T3		
Work item code:	# TEI	Date:	# 08/02/2005
Category:	# A	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		Ph2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
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			Rel-5 (Release 5)
			Rel-6 (Release 6)
			Rel-7 (Release 7)

Reason for change:	# The test cases 7.3.1 and 7.3.2 are related to Operator controlled PLMN selector handling, though the EF UST does not state the support of this service.
Summary of change:	# Initial conditions of test cases 7.3.1 and 7.3.2 corrected
Consequences if not approved:	# UEs might unfairly fail the test cases 7.3.1 and 7.3.2.

Clauses affected:	# 7.3.1.4.1, 7.3.2.4.1						
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	#	X	#	
Y	N						
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> Test specifications	#	X	#			
#	X						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="text-align: center;">#</td> <td style="text-align: center;">X</td> </tr> </table> O&M Specifications	#	X	#			
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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:

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- 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_{UST} (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 'I'
Enabled Services Table available
Operator controlled PLMN selector available

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

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

EF_{OPLMNwACT} (OPLMN Selector)

Logically: 1st PLMN: 254 012 (MCC MNC)
1st ACT: UTRAN
2nd PLMN: 254 011
2nd ACT: UTRAN
3rd PLMN: 254 002
3rd ACT: UTRAN
4th PLMN: 254 003
4th ACT: UTRAN

5th PLMN: 254 004
 5th ACT: UTRAN
 6th PLMN: 254 005
 6th ACT: UTRAN
 7th PLMN: 254 006
 7th ACT: UTRAN
 8th PLMN: 254 007
 8th 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_{UST} (USIM Service Table)

- Logically: Local Phone Book available
- User controlled PLMN selector available
- Fixed dialling numbers available
- Barred dialling numbers available
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- 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

<u>Coding:</u>	<u>B1</u>	<u>B2</u>	<u>B3</u>	<u>B4</u>	<u>B5</u>	<u>B6</u>
<u>binary</u>	<u>xx1x xx11</u>	<u>xxxx xxxx</u>	<u>xxxx 1x00</u>	<u>xxxx x1xx</u>	<u>xxxx xx11</u>	<u>xxxx xx1x</u>

The coding of EF_{U_{ST}} 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.

[..]

CHANGE REQUEST

⌘ **31.121 CR 51** ⌘ rev **-** ⌘ Current version: **4.10.0** ⌘

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

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

Title:	⌘ Correction to the "Maximum frequency of ACM updating" test.		
Source:	⌘ T3		
Work item code:	⌘ TEI4	Date:	⌘ 08/02/2005
Category:	⌘ A	Release:	⌘ Rel-4
	Use <u>one</u> 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 .		Use <u>one</u> 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 "Maximum frequency of ACM updating" test does not take into account that the ACM (Accumulated Call Meter) is updated on termination of a call. The test should only be monitoring the time intervals between successive INCREMENT commands during a call. The test needs to be modified to take into account updates of the ACM once the call is terminated. 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 length. This has been clarified. During a call, the specified minimum time interval that the ACM is updated is the greater of either 5 seconds or the time interval specified in parameter e2.
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.
Consequences if not approved:	⌘ There is a strong possibility that MEs will unfairly fail the test

Clauses affected:	⌘ 6.4.2.1, 6.4.2.3, 6.4.2.4.2 & 6.4.2.5
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Other specs affected:	⌘	<table border="1"><tr><td>Y</td><td>N</td></tr><tr><td></td><td>X</td></tr></table>	Y	N		X	Other core specifications	⌘ TS 51.010-1 (TC 27.21.2) (to be dealt with at GERAN3 (5-7 April)).
	Y	N						
		X						
	<table border="1"><tr><td>X</td><td></td></tr></table>	X		Test specifications				
X								
	<table border="1"><tr><td></td><td>X</td></tr></table>		X	O&M Specifications				
	X							
Other comments:	⌘							

How to create CRs using this form:

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

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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_{ACM} , 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_{ACM} .

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_{UST} (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 xx11

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

EF_{ACM} (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	UE -> USS	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	USS -> UE	CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUP COMPLETE	
14	USS -> UE	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	UE -> USS	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	USS -> UE	DISCONNECT	
20	UE -> USS	RELEASE	
21	USS -> UE	RELEASE COMPLETE	
22	USS -> UE	RRC CONNECTION RELEASE	
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	All connections of RRC are released.

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:

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 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.

CHANGE REQUEST

⌘ **31.121 CR 52** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ Correction to the "Maximum frequency of ACM updating" test.		
Source:	⌘ T3		
Work item code:	⌘ TEI5	Date:	⌘ 08/02/2005
Category:	⌘ A	Release:	⌘ Rel-5
	Use <u>one</u> 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 .		Use <u>one</u> 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 "Maximum frequency of ACM updating" test does not take into account that the ACM (Accumulated Call Meter) is updated on termination of a call. The test should only be monitoring the time intervals between successive INCREMENT commands during a call. The test needs to be modified to take into account updates of the ACM once the call is terminated. 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 length. This has been clarified. During a call, the specified minimum time interval that the ACM is updated is the greater of either 5 seconds or the time interval specified in parameter e2.
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.
Consequences if not approved:	⌘ There is a strong possibility that MEs will unfairly fail the test

Clauses affected:	⌘ 6.4.2.1, 6.4.2.3, 6.4.2.4.2 & 6.4.2.5
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Other specs affected:	⌘	<table border="1"><tr><td>Y</td><td>N</td></tr><tr><td></td><td>X</td></tr></table>	Y	N		X	Other core specifications	⌘ TS 51.010-1 (TC 27.21.2) (to be dealt with at GERAN3 (5-7 April)).
	Y	N						
		X						
	<table border="1"><tr><td>X</td><td></td></tr></table>	X		Test specifications				
X								
	<table border="1"><tr><td></td><td>X</td></tr></table>		X	O&M Specifications				
	X							
Other comments:	⌘	This CR also contains approved changes (T3-040578) which were incorrectly implemented (Enabled Services Table available in 6.4.2.4.1)						

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" 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 B3 B4 B5
6.4.2.2 xxx Maximum frequency of ACM updating xxxx xx11

- 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.

CHANGE REQUEST

⌘ **31.121 CR 053** ⌘ rev **-** ⌘ 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 ME Radio Access Network Core Network

Title:	⌘ CR 31.121 R99: Correction to verification of EF _{PSLOCI} in section 7 "PLMN related tests"
Source:	⌘ T3
Work item code:	⌘ TEI Date: ⌘ 11/02/2005
Category:	⌘ F Release: ⌘ R99
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>Use one of the following categories:</i></p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </div> <div style="width: 45%;"> <p><i>Use one of the following releases:</i></p> <p>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)</p> </div> </div>

Reason for change:	⌘ Considering 3GPP TS 24.008 which specifies the handling of the P-TMSI signature in sections 4.7.3.1 and 4.7.3.1.3 it can not be guaranteed that the value for the P-TMSI signature is available in EF _{PSLOCI} after the mobile has been powered down. As the value of the of the P-TMSI signature is not relevant for the test purpose it is proposed to remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} .
Summary of change:	⌘ Remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} in all acceptance criteria where there is EF _{PSLOCI} mentioned.
Consequences if not approved:	⌘ There is a possibility that MEs will unfairly fail the test.

Clauses affected:	⌘ 7.1.1.5, 7.1.3.5, 7.2.2.5, 7.3.1.5, 7.3.2.5, 7.4.1.5, 7.4.2.5									
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘
Y	N									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
Other comments:	⌘									

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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_{FPLMN} 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_{FPLMN} 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_{FPLMN} 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_{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_{FPLMN} 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:
- I. 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

- 1) To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that the EF_{FPLMN} is correctly updated by the Terminal after receipt of a
 - I. 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_{LOCI} has been correctly updated by the Terminal during registration on CS or.
 - II. the EF_{PSLOCI} has been correctly updated by the Terminal during registration on PS or.
 - III. the EF_{LOCI} and EF_{PSLOCI} 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: 2460811111111111

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 007
 LAI-LAC: 0000
 TMSI: "32547698"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	32	74	00	00	00	FF	00

EF_{PSLOCI} (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"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	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 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 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	234 002 (MCC MNC)
PLMN2:	234 003
PLMN3:	234 004
PLMN4:	234 005
PLMN5:	234 006
PLMN6:	234 007

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	24	00	32	34	00	32	44	00	32	54	00
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	74	00						

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 008
 TMSI: "43658709"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	32	84	00	xx	xx	xx	00

For UEs supporting (CS and PS) or (PS only):**EF_{PSLOCI} (Location Information)**

Logically: RAI-MCC: 234
 RAI-MNC: 008
 P-TMSI: "43658709"
~~P-TMSI signature value:"443322"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	xx 44	xx 33	xx 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 mode or
- 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_{FPLMN} 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	empty
PLMN2:	empty
PLMN3:	empty
PLMN4:	empty
PLMN5:	234 005 (MCC MNC)
PLMN6:	empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	32	54	00	FF	FF	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_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty
 PLMN2: empty
 PLMN3: empty
 PLMN4: empty
 PLMN5: empty
 PLMN6: empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	FF	FF	FF	FF	FF	FF						

For UEs supporting CS only or CS/PS :

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 005
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	32	54	00	xx	xx	xx	00

For UEs supporting PS only or CS/PS :

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234
 RAI-MNC: 005
 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	ABxx	xx42	xx34	32	54	00	xx

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:

$EF_{PLMNwACT}$ (UPLMN Selector with Access Technology)

Logically:	1 st PLMN:	244 081 (MCC MNC)
	1 st ACT:	UTRAN
	2 nd PLMN:	244 081
	2 nd ACT:	GSM

3rd PLMN: 244 082
 3rd ACT UTRAN
 3rd PLMN: 244 082
 3rd ACT GSM

 10th PLMN: 244 008
 10th ACT UTRAN
 11th PLMN: 244 034
 11th ACT UTRAN
 12th PLMN: 244 033
 12th ACT UTRAN

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	B17	B18	B19	B20	.....	.....	.....	.....		
	42	24	80	00	80	.....	.....	.....	.....		
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	80	00	42	44	30	80	00	42	34	30	80	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_{LOCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 034
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	42	44	30	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
 RAI-MNC: 034
 P-TMSI: "34567890"

~~P-TMSI signature value:"AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xxAB	xx12	xx34	42	44	30	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

[...]

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_{OPLMNwACT}. 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_{OPLMNwACT} (OPLMN Selector)

Logically:

1 st 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
5 th PLMN:	254 004
5 th ACT:	UTRAN
6 th PLMN:	254 005
6 th ACT:	UTRAN
7 th PLMN:	254 006
7 th ACT:	UTRAN
8 th PLMN:	254 007
8 th 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_{LOCI} (Location Information)

Logically: LAI-MCC: 254
LAI-MNC: 012
TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	52	24	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 254
RAI-MNC: 012
P-TMSI: "34567890"
~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xxAB	xx42	xx34	52	24	10	xx

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_{LoCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 010
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
	34	56	78	90	42	04	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
 RAI-MNC: 010
 P-TMSI: "34567890"
~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx AB	xx 42	xx 34	42	04	10	xx
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_{HPLMN} (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_{LOCI} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 12	xx 34	42	16	80	xx

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 $EF_{HPLMNACT}$. 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 supersedes 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 $EF_{HPLMNwACT}$) 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_{HPLMNwACT} (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_{HPLMN} (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_{LOCI} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 42	xx 34	42	16	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

7.5 Void

CHANGE REQUEST

31.121 CR 056 # rev - # 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 ME Radio Access Network Core Network

Title:	# CR 31.121, R99: Correction of HPLMN Search Period tests		
Source:	# T3		
Work item code:	# TEI	Date:	# 11/02/2005
Category:	# F	Release:	# R99
	Use <u>one</u> 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 .		Use <u>one</u> 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. 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 not approved:	⌘	a) UEs not registering to the HPLMN would unfairly fail the test sequences. 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:	⌘	7.4.1, 7.4.2								
Other specs affected:	⌘	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </tbody> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
Other comments:	⌘									

How to create CRs using this form:

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

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

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): 244/082~~4~~/0001.
- RAI (MCC/MNC/LAC/RAC): 244/082~~4~~/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): 244~~6~~/081/0001.
- RAI (MCC/MNC/LAC/RAC): 244~~6~~/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

EF_{HP}PLMN (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): 244/08+2/0001

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) 244/082+/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): 244/08+2/0001

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 2446/081 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_{LOC} (Location Information)

Logically: LAI-MCC: 2446
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	Xx	xx	00

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

EF_{PSLOC} (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	164	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 $EF_{HPLMN_{WACT}}$. 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 supersedes 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 $EF_{HPLMN_{WACT}}$) 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): 244/0824/0001.
- 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): 2446/081/0001.
- 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): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{HPLMNwACT} (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_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding:	B1
Hex	01

EE_{UST} (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 xx11	xxxx x1xx

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

7.4.2.4.2 Procedure

- The UE is powered on.
- After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- 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.

- After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- 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.
- 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_{LOCI} (Location Information)

Logically: LAI-MCC: 2464
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	xx	xx	00

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

EF_{PSLOCI} (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	164	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

CHANGE REQUEST

31.121 CR 057 # rev - # Current version: 4.10.0

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

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

Title:	# CR 31.121, Rel-4: Correction of HPLMN Search Period tests		
Source:	# T3		
Work item code:	# TEI4	Date:	# 11/02/2005
Category:	# A	Release:	# Rel-4
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>Ph2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p> <p>Rel-7 (Release 7)</p>

Reason for change: #	<p>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.</p> <p>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."</p> <p>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.</p> <p>b) Service no. 43 shall be enabled in 7.4.2, but this is not stated in the initial conditions</p> <p>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</p>
Summary of change: #	<p>a) MCC adjusted to same value and minor corrections implemented.</p> <p>b) Service no. 43 enabled in test case 7.4.2</p> <p>c) Applicability of test case 7.4.2 adjusted</p>

		d) "HPLMN" and "Home PLMN" replaced by "Higher priority PLMN"
Consequences if not approved:	⌘	a) UEs not registering to the HPLMN would unfairly fail the test sequences. 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:	⌘	7.4.1, 7.4.2								
Other specs affected:	⌘	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </tbody> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
Other comments:	⌘									

How to create CRs using this form:

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

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

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): 244/082~~4~~/0001.
- RAI (MCC/MNC/LAC/RAC): 244/082~~4~~/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): 244~~6~~/081/0001.
- RAI (MCC/MNC/LAC/RAC): 244~~6~~/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

EF_{HP}PLMN (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): 244/08+2/0001

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) 244/082+/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): 244/08+2/0001

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 2446/081 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_{LOC} (Location Information)

Logically: LAI-MCC: 2446
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	Xx	xx	00

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

EF_{PSLOC} (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	164	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 $EF_{HPLMN_{WACT}}$. 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 supersedes 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 $EF_{HPLMN_{WACT}}$) 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): 244/0824/0001.
- 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): 2446/081/0001.
- 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): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC is used with the following exceptions:

EF_{HPLMNwACT} (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_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding:	B1
Hex	01

EE_{UST} (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 xx11	xxxx x1xx

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

7.4.2.4.2 Procedure

- The UE is powered on.
- After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- 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.

- After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- 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.
- 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_{LOCI} (Location Information)

Logically: LAI-MCC: 2464
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	xx	xx	00

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

EF_{PSLOCI} (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	164	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

CHANGE REQUEST

31.121 CR 058 # rev - # Current version: 5.0.0

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

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

Title:	# CR 31.121, Rel-5: Correction of HPLMN Search Period tests		
Source:	# T3		
Work item code:	# TEI5	Date:	# 11/02/2005
Category:	# A	Release:	# Rel-5
	<p>Use <u>one</u> of the following categories:</p> <p>F (correction)</p> <p>A (corresponds to a correction in an earlier release)</p> <p>B (addition of feature),</p> <p>C (functional modification of feature)</p> <p>D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>		<p>Use <u>one</u> of the following releases:</p> <p>Ph2 (GSM Phase 2)</p> <p>R96 (Release 1996)</p> <p>R97 (Release 1997)</p> <p>R98 (Release 1998)</p> <p>R99 (Release 1999)</p> <p>Rel-4 (Release 4)</p> <p>Rel-5 (Release 5)</p> <p>Rel-6 (Release 6)</p> <p>Rel-7 (Release 7)</p>

Reason for change: #	<p>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.</p> <p>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."</p> <p>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.</p> <p>b) Service no. 43 shall be enabled in 7.4.2, but this is not stated in the initial conditions</p> <p>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</p>
Summary of change: #	<p>a) MCC adjusted to same value and minor corrections implemented.</p> <p>b) Service no. 43 enabled in test case 7.4.2</p> <p>c) Applicability of test case 7.4.2 adjusted</p>

		d) "HPLMN" and "Home PLMN" replaced by "Higher priority PLMN"
Consequences if not approved:	⌘	a) UEs not registering to the HPLMN would unfairly fail the test sequences. 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:	⌘	7.4.1, 7.4.2								
Other specs affected:	⌘	<table border="1"> <thead> <tr> <th>Y</th> <th>N</th> </tr> </thead> <tbody> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </tbody> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X
Y	N									
	X									
	X									
	X									
Other comments:	⌘									

How to create CRs using this form:

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

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

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): 244/082~~4~~/0001.
- RAI (MCC/MNC/LAC/RAC): 244/082~~4~~/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): 244~~6~~/081/0001.
- RAI (MCC/MNC/LAC/RAC): 244~~6~~/081/0001/05.
- Access control: unrestricted.

The default UICC shall be used with the following exception:

EF_{HP}PLMN (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): 244/08+2/0001

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) 244/082+/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): 244/08+2/0001

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 2446/081 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_{LOC} (Location Information)

Logically: LAI-MCC: 2446
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	Xx	xx	00

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

EF_{PSLOC} (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	164	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 $EF_{HPLMN_{WACT}}$. 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 supersedes 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 $EF_{HPLMN_{WACT}}$) 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): 244/0824/0001.
- 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): 2446/081/0001.
- 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): 2446/081/0001.
- RAI (MCC/MNC/LAC/RAC): 2446/081/0001/05.
- Access control: unrestricted.

The default UICC is used with the following exception:

EF_{HPLMNwACT} (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_{HPPLMN} (Higher Priority HPLMN Search period)

Logically: set to 6minutes

Coding:	B1
Hex	01

EE_{UST} (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 xx11	xxxx x1xx

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

7.4.2.4.2 Procedure

- The UE is powered on.
- After receipt of a CHANNEL REQUEST from the UE, the SS sends IMMEDIATE ASSIGNMENT to the UE.
- 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.

- After receipt of a TMSI REALLOCATION COMPLETE from the UE, the SS sends CHANNEL RELEASE to the UE.
- 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.
- 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_{LOCI} (Location Information)

Logically: LAI-MCC: 2464
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	164	80	xx	xx	xx	00

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

EF_{PSLOCI} (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	164	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

CHANGE REQUEST

⌘ **31.121 CR 054** ⌘ rev **-** ⌘ Current version: **4.10.0** ⌘

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

Title:	⌘ CR 31.121 Rel-4: Correction to verification of EF _{PSLOCI} in section 7 "PLMN related tests"
Source:	⌘ T3
Work item code:	⌘ TEI4 Date: ⌘ 11/02/2005
Category:	⌘ A Release: ⌘ Rel-4
	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><i>Use one of the following categories:</i></p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </div> <div style="width: 45%;"> <p><i>Use one of the following releases:</i></p> <p>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)</p> </div> </div>

Reason for change:	⌘ Considering 3GPP TS 24.008 which specifies the handling of the P-TMSI signature in sections 4.7.3.1 and 4.7.3.1.3 it can not be guaranteed that the value for the P-TMSI signature is available in EF _{PSLOCI} after the mobile has been powered down. As the value of the of the P-TMSI signature is not relevant for the test purpose it is proposed to remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} .
Summary of change:	⌘ Remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} in all acceptance criteria where there is EF _{PSLOCI} mentioned.
Consequences if not approved:	⌘ There is a possibility that MEs will unfairly fail the test

Clauses affected:	⌘ 7.1.1.5, 7.1.3.5, 7.2.2.5, 7.3.1.5, 7.3.2.5, 7.4.1.5, 7.4.2.5										
Other specs affected:	<table border="1" style="border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center; padding: 2px;"><input type="checkbox"/></td> <td style="text-align: center; padding: 2px;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications Test specifications O&M Specifications	⌘
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<input type="checkbox"/>	<input checked="" type="checkbox"/>										
Other comments:	⌘										

How to create CRs using this form:

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

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

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_{FPLMN} 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_{FPLMN} 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_{FPLMN} 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_{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_{FPLMN} 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:
- I. 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

- 1) To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that the EF_{FPLMN} is correctly updated by the Terminal after receipt of a
 - I. 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_{LOCI} has been correctly updated by the Terminal during registration on CS or.
 - II. the EF_{PSLOCI} has been correctly updated by the Terminal during registration on PS or.
 - III. the EF_{LOCI} and EF_{PSLOCI} 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: 2460811111111111

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 007
 LAI-LAC: 0000
 TMSI: "32547698"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	32	74	00	00	00	FF	00

EF_{PSLOCI} (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"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	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 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 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	234 002 (MCC MNC)
PLMN2:	234 003
PLMN3:	234 004
PLMN4:	234 005
PLMN5:	234 006
PLMN6:	234 007

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	24	00	32	34	00	32	44	00	32	54	00
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	74	00						

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 008
 TMSI: "43658709"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	32	84	00	xx	xx	xx	00

For UEs supporting (CS and PS) or (PS only):**EF_{PSLOCI} (Location Information)**

Logically: RAI-MCC: 234
 RAI-MNC: 008
 P-TMSI: "43658709"
~~P-TMSI signature value:"443322"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	xx 44	xx 33	xx 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 ATTACH 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 mode or
- 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_{FPLMN} 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	empty
PLMN2:	empty
PLMN3:	empty
PLMN4:	empty
PLMN5:	234 005 (MCC MNC)
PLMN6:	empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	32	54	00	FF	FF	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_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty
 PLMN2: empty
 PLMN3: empty
 PLMN4: empty
 PLMN5: empty
 PLMN6: empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	FF	FF	FF	FF	FF	FF						

For UEs supporting CS only or CS/PS :

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 005
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	32	54	00	xx	xx	xx	00

For UEs supporting PS only or CS/PS :

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234
 RAI-MNC: 005
 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	ABxx	xx42	xx34	32	54	00	xx

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:

$EF_{PLMNwACT}$ (UPLMN Selector with Access Technology)

- | | | |
|------------|-----------------------|-------------------|
| Logically: | 1 st PLMN: | 244 081 (MCC MNC) |
| | 1 st ACT: | UTRAN |
| | 2 nd PLMN: | 244 081 |
| | 2 nd ACT: | GSM |

3rd PLMN: 244 082
 3rd ACT UTRAN
 3rd PLMN: 244 082
 3rd ACT GSM

 10th PLMN: 244 008
 10th ACT UTRAN
 11th PLMN: 244 034
 11th ACT UTRAN
 12th PLMN: 244 033
 12th ACT UTRAN

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	B17	B18	B19	B20	.....	.....	.....	.....		
	42	24	80	00	80	.....	.....	.....	.....		
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	80	00	42	44	30	80	00	42	34	30	80	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_{LOCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 034
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	42	44	30	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
 RAI-MNC: 034
 P-TMSI: "34567890"

~~P-TMSI signature value:"AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xxAB	xx12	xx34	42	44	30	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

[...]

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_{OPLMNwACT}. 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_{OPLMNwACT} (OPLMN Selector)

Logically:

1 st 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
5 th PLMN:	254 004
5 th ACT:	UTRAN
6 th PLMN:	254 005
6 th ACT:	UTRAN
7 th PLMN:	254 006
7 th ACT:	UTRAN
8 th PLMN:	254 007
8 th 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_{LOCI} (Location Information)

Logically: LAI-MCC: 254
LAI-MNC: 012
TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	52	24	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 254
RAI-MNC: 012
P-TMSI: "34567890"
P-TMSI signature value: "AB1234"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	<u>xx</u> AB	<u>xx</u> 42	<u>xx</u> 34	52	24	10	xx

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_{LoCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 010
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
	34	56	78	90	42	04	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
RAI-MNC: 010
P-TMSI: "34567890"
~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx AB	xx 42	xx 34	42	04	10	xx
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_{HPLMN} (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_{LocI} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLocI} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 12	xx 34	42	16	80	xx

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 $EF_{HPLMNACT}$. 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 supersedes 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 $EF_{HPLMNwACT}$) 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_{HPLMNwACT} (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_{HPLMN} (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_{LOCi} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLOCi} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 42	xx 34	42	16	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

7.5 Void

CHANGE REQUEST

⌘ **31.121 CR 055** ⌘ rev **-** ⌘ Current version: **5.0.0** ⌘

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

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

Title:	⌘ CR 31.121 Rel-5: Correction to verification of EF _{PSLOCI} in section 7 "PLMN related tests"		
Source:	⌘ T3		
Work item code:	⌘ TEI5 Date: ⌘ 1102/2005		
Category:	⌘ A Release: ⌘ Rel-5		
	<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top;"> <p><i>Use one of the following categories:</i></p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p> </td> <td style="width: 50%; vertical-align: top;"> <p><i>Use one of the following releases:</i></p> <p>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)</p> </td> </tr> </table>	<p><i>Use one of the following categories:</i></p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use one of the following releases:</i></p> <p>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)</p>
<p><i>Use one of the following categories:</i></p> <p>F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification)</p> <p>Detailed explanations of the above categories can be found in 3GPP TR 21.900.</p>	<p><i>Use one of the following releases:</i></p> <p>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)</p>		

Reason for change:	⌘ Considering 3GPP TS 24.008 which specifies the handling of the P-TMSI signature in sections 4.7.3.1 and 4.7.3.1.3 it can not be guaranteed that the value for the P-TMSI signature is available in EF _{PSLOCI} after the mobile has been powered down. As the value of the of the P-TMSI signature is not relevant for the test purpose it is proposed to remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} .
Summary of change:	⌘ Remove the checking of the 3 bytes related to the P-TMSI signature in EF _{PSLOCI} in all acceptance criteria where there is EF _{PSLOCI} mentioned.
Consequences if not approved:	⌘ There is a possibility that MEs will unfairly fail the test

Clauses affected:	⌘ 7.1.1.5, 7.1.3.5, 7.2.2.5, 7.3.1.5, 7.3.2.5, 7.4.1.5, 7.4.2.5									
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘
Y	N									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/>									
Other comments:	⌘									

How to create CRs using this form:

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

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

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_{FPLMN} 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_{FPLMN} 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_{FPLMN} 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_{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_{FPLMN} 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:
- I. 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

- 1) To verify that in automatic PLMN selection mode the UE does not attempt to access PLMNs stored in EF_{FPLMN} on the USIM.
- 2) To verify that the EF_{FPLMN} is correctly updated by the Terminal after receipt of a
 - I. 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_{LOCI} has been correctly updated by the Terminal during registration on CS or.
 - II. the EF_{PSLOCI} has been correctly updated by the Terminal during registration on PS or.
 - III. the EF_{LOCI} and EF_{PSLOCI} 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: 2460811111111111

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9
Hex	08	29	64	80	11	11	11	11	11

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 007
 LAI-LAC: 0000
 TMSI: "32547698"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	32	54	76	98	32	74	00	00	00	FF	00

EF_{PSLOCI} (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"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	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 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 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	234 002 (MCC MNC)
PLMN2:	234 003
PLMN3:	234 004
PLMN4:	234 005
PLMN5:	234 006
PLMN6:	234 007

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	32	24	00	32	34	00	32	44	00	32	54	00
	B13	B14	B15	B16	B17	B18						
	32	64	00	32	74	00						

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

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 008
 TMSI: "43658709"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	32	84	00	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234
 RAI-MNC: 008
 P-TMSI: "43658709"
~~P-TMSI signature value:"443322"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	43	65	87	09	xx 44	xx 33	xx 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 ATTACH 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 mode or
- 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_{FPLMN} 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_{FPLMN} (Forbidden PLMNs)

Logically:

PLMN1:	empty
PLMN2:	empty
PLMN3:	empty
PLMN4:	empty
PLMN5:	234 005 (MCC MNC)
PLMN6:	empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	32	54	00	FF	FF	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_{FPLMN} (Forbidden PLMNs)

Logically: PLMN1: empty
 PLMN2: empty
 PLMN3: empty
 PLMN4: empty
 PLMN5: empty
 PLMN6: empty

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
Hex	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF	FF
	B13	B14	B15	B16	B17	B18						
	FF	FF	FF	FF	FF	FF						

For UEs supporting CS only or CS/PS :

EF_{LOCI} (Location Information)

Logically: LAI-MCC: 234
 LAI-MNC: 005
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	32	54	00	xx	xx	xx	00

For UEs supporting PS only or CS/PS :

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 234
 RAI-MNC: 005
 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	ABxx	xx42	xx34	32	54	00	xx

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:

$EF_{PLMNwACT}$ (UPLMN Selector with Access Technology)

Logically:	1 st PLMN:	244 081 (MCC MNC)
	1 st ACT:	UTRAN
	2 nd PLMN:	244 081
	2 nd ACT:	GSM

3rd PLMN: 244 082
 3rd ACT UTRAN
 3rd PLMN: 244 082
 3rd ACT GSM

 10th PLMN: 244 008
 10th ACT UTRAN
 11th PLMN: 244 034
 11th ACT UTRAN
 12th PLMN: 244 033
 12th ACT UTRAN

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	B17	B18	B19	B20	.....	.....	.....	.....		
	42	24	80	00	80	.....	.....	.....	.....		
	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60
	42	84	00	80	00	42	44	30	80	00	42	34	30	80	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_{LOCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 034
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	42	44	30	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
 RAI-MNC: 034
 P-TMSI: "34567890"

~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xxAB	xx12	xx34	42	44	30	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

[...]

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_{OPLMNwACT}. 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_{OPLMNwACT} (OPLMN Selector)

Logically:

1 st 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
5 th PLMN:	254 004
5 th ACT:	UTRAN
6 th PLMN:	254 005
6 th ACT:	UTRAN
7 th PLMN:	254 006
7 th ACT:	UTRAN
8 th PLMN:	254 007
8 th 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_{LOCI} (Location Information)

Logically: LAI-MCC: 254
LAI-MNC: 012
TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	52	24	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 254
RAI-MNC: 012
P-TMSI: "34567890"
~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xxAB	xx42	xx34	52	24	10	xx

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_{LoCI} (Location Information)

Logically: LAI-MCC: 244
 LAI-MNC: 010
 TMSI: "34567890"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
	34	56	78	90	42	04	10	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 244
RAI-MNC: 010
P-TMSI: "34567890"
~~P-TMSI signature value: "AB1234"~~

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	34	56	78	90	xx AB	xx 42	xx 34	42	04	10	xx
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_{HPLMN} (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_{LOCI} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLOCI} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 12	xx 34	42	16	80	xx

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 $EF_{HPLMNACT}$. 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 supersedes 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 $EF_{HPLMNwACT}$) 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_{HPLMNwACT} (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_{HPLMN} (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_{LOC1} (Location Information)

Logically: LAI-MCC: 246
 LAI-MNC: 081
 TMSI: "12345678"

Coding:	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11
Hex	12	34	56	78	42	16	80	xx	xx	xx	00

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

EF_{PSLOC1} (Location Information)

Logically: RAI-MCC: 246
 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	xx AB	xx 42	xx 34	42	16	80	xx

Coding:	B12	B13	B14
Hex	xx	xx	00

7.5 Void

CHANGE REQUEST

⌘ **31.121 CR 050** ⌘ rev **1** ⌘ 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 ME Radio Access Network Core Network

Title:	⌘ Correction to the "Maximum frequency of ACM updating" test.		
Source:	⌘ T3		
Work item code:	⌘ TEI	Date:	⌘ 10/02/2005
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> 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 .		Use <u>one</u> 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 "Maximum frequency of ACM updating" test does not take into account that the ACM (Accumulated Call Meter) is updated on termination of a call. The test should only be monitoring the time intervals between successive INCREMENT commands during a call. The test needs to be modified to take into account updates of the ACM once the call is terminated. 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 length. This has been clarified. During a call, the specified minimum time interval that the ACM is updated is the greater of either 5 seconds or the time interval specified in parameter e2.
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. Correction of EF UST due to incorrect implementation of earlier CR
Consequences if not approved:	⌘ There is a strong possibility that MEs will unfairly fail the test

Clauses affected:	⌘	6.4.2.1, 6.4.2.3, 6.4.2.4.2 & 6.4.2.5								
Other specs affected:	⌘	<table border="1"><tr><td>Y</td><td>N</td></tr><tr><td></td><td>X</td></tr><tr><td>X</td><td></td></tr></table>	Y	N		X	X		Other core specifications	⌘ TS 51.010-1 (TC 27.21.2) (to be dealt with at GERAN3 (5-7 April)).
		Y	N							
			X							
X										
<table border="1"><tr><td></td><td></td></tr><tr><td>X</td><td></td></tr><tr><td></td><td>X</td></tr></table>			X			X	Test specifications			
X										
	X									
<table border="1"><tr><td></td><td></td></tr><tr><td></td><td>X</td></tr></table>				X	O&M Specifications					
	X									
Other comments:	⌘	This CR also contains approved changes (T3-040578) which were incorrectly implemented (Enabled Services Table 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 <http://www.3gpp.org/specs/CR.htm>. Below is a brief summary:

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

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, 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_{ACM}, 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 interval between increments is 5 s.
- 2) To verify that the Terminal is able to handle other values than '1C' as SFI of EF_{ACM}.

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_{UST} (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_{UST} shall conform with the capabilities of the USIM used.

EF_{ACM} (Accumulated call meter)

Logically: 50 units

The SFI of EF_{ACM} shall be set to '18'.

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 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	UE -> USS	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	USS -> UE	CALL PROCEEDING	
12	USS -> UE	RADIO BEARER SETUP	To a supported channel type
13	UE -> USS	RADIO BEARER SETUP COMPLETE	
14	USS -> UE	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	UE -> USS	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	USS -> UE	DISCONNECT	
20	UE -> USS	RELEASE	
21	USS -> UE	RELEASE COMPLETE	
22	USS -> UE	RRC CONNECTION RELEASE	
23	UE -> USS	RRC CONNECTION RELEASE COMPLETE	All connections of RRC are released.

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.