

TSG RAN Meeting #22
Maui, Hawaii, US, 9 - 12 December 2003

RP-030591

Title CRs (R'99 and Rel-4/Rel-5 Category A) to TS 25.123, "out-of-service area for 3.84 Mcps & 1.28 Mcps TDD"
Source TSG RAN WG4
Agenda Item 7.5.3

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-030890	25.123	322		F	R99	3.13.0	out-of-service area for 3.84Mcps TDD	TEI
R4-030891	25.123	323		A	Rel-4	4.10.0	out-of-service area for 3.84Mcps TDD	TEI
R4-030892	25.123	324		A	Rel-5	5.6.0	out-of-service area for 3.84Mcps TDD	TEI
R4-030893	25.123	325		F	Rel-4	4.10.0	out-of-service area for 1.28Mcps TDD	LCRTDD-RF
R4-030894	25.123	326		A	Rel-5	5.6.0	out-of-service area for 1.28Mcps TDD	LCRTDD-RF

CHANGE REQUEST

⌘ **25.123 CR 322** ⌘ rev ⌘ Current version: **3.13.0** ⌘

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:	⌘ out-of-service area for 3.84 Mcps TDD		
Source:	⌘ RAN WG4		
Work item code:	⌘ TEI	Date:	⌘ 26/11/2003
Category:	⌘ F	Release:	⌘ R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	R96 (Release 1996)	2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R97 (Release 1997)	
	B (addition of feature),	R98 (Release 1998)	
	C (functional modification of feature)	R99 (Release 1999)	
	D (editorial modification)	Rel-4 (Release 4)	
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-5 (Release 5)	
		Rel-6 (Release 6)	

Reason for change:	⌘ When the UE moves from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘ It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘ On transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘ 4.2.2.1, 5.4.2.3										
Other specs affected:	<table border="1" style="display: inline-table; 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;">X</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="text-align: center; padding: 2px;">X</td> <td style="padding: 2px;"></td> </tr> <tr> <td style="text-align: center; padding: 2px;">X</td> <td style="padding: 2px;"></td> </tr> </table>	Y	N	X		X		X		Other core specifications	⌘
	Y	N									
	X										
	X										
X											
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Equivalent CRs in other Releases: CR323 cat. A to 25.123 v4.10.0, CR324 cat. A to 25.123 v5.6.0										

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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

The UE shall measure the PCCPCH RSCP level of the serving cell and evaluate the cell selection criterion S defined in TS25.304 for the serving cell at least every DRX cycle. The UE shall filter the PCCPCH RSCP measurement of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{\text{measureTDD}}/2$ (see table 4.1).

If the UE has evaluated in N_{serv} successive measurements that the serving cell does not fulfil the cell selection criterion S, the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [18].

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

<next changed section>

5.4.2.3 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the P-CCPCH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{\text{Measurement period intra}}$.

The S-criteria detection delay in CELL_FACH state shall be less than:

$$T_{\text{S-criteria}} = 5 \times T_{\text{measurement period intra}} \text{ ms}$$

where

$T_{\text{measurement period intra}}$ is specified in 8.4.2.2.2.

If the UE has evaluated that the serving cell does not fulfil the cell selection criterion S during 4 s and if during this time period the UE has not found any new suitable cell based on measurements of neighbour cells as indicated in the measurement control system information, the UE shall consider having detected “out of service area” and initiate actions according to [16] and [18].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

CHANGE REQUEST

⌘ **25.123 CR 323** ⌘ 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:	⌘ out-of-service area for 3.84 Mcps TDD		
Source:	⌘ RAN WG4		
Work item code:	⌘ TEI	Date:	⌘ 26/11/2003
Category:	⌘ A	Release:	⌘ Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	R96	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R97	(Release 1996)
	B (addition of feature),	R98	(Release 1997)
	C (functional modification of feature)	R99	(Release 1998)
	D (editorial modification)	Rel-4	(Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-5 (Release 4)
			Rel-6 (Release 5)
			(Release 6)

Reason for change:	⌘ When the UE moves from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘ It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘ On transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘ 4.2.2.1.1, 5.4.2.3										
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> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Equivalent CRs in other Releases: CR322 cat. F to 25.123 v3.13.0, CR324 cat. A to 25.123 v5.6.0										

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

4.2.2.1.1 3.84 Mcps TDD option

The UE shall measure the PCCPCH RSCP level of the serving cell and evaluate the cell selection criterion S_{rxlev} defined in [18] for the serving cell at least every DRX cycle. The UE shall filter the PCCPCH RSCP measurement of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureTDD}/2$ (see table 4.1).

If the UE has evaluated in N_{serv} successive measurements that the serving cell does not fulfil the cell selection criterion S, the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based the on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [18].

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

<next changed section>

5.4 Cell Re-selection in Cell_FACH

5.4.1 Introduction

The UE shall evaluate the cell re-selection criteria specified in [18], based on radio measurements, and if a better ranked cell is found that cell is selected.

5.4.2 Requirements for 3.84Mcps TDD option

<next changed section>

5.4.2.3 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the P-CCPCH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{\text{Measurement period intra}}$.

The S-criteria detection delay in CELL_FACH state shall be less than:

$$T_{\text{S-criteria}} = 5 \times T_{\text{measurement period intra}} \text{ ms}$$

where

$T_{\text{measurement period intra}}$ is specified in 8.4.2.2.2.

If the UE has evaluated that the serving cell does not fulfil the cell selection criterion S during 4 s and if during this time period the UE has not found any new suitable cell based on measurements of neighbour cells as indicated in the measurement control system information, the UE shall consider having detected “out of service area” and initiate actions according to [16] and [18].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

CHANGE REQUEST

⌘ **25.123 CR 324** ⌘ rev ⌘ Current version: **5.6.0** ⌘

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:	⌘ out-of-service area for 3.84 Mcps TDD		
Source:	⌘ RAN WG4		
Work item code:	⌘ TEI	Date:	⌘ 26/11/2003
Category:	⌘ A	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	R96	(GSM Phase 2) (Release 1996)
	A (corresponds to a correction in an earlier release)	R97	(Release 1997)
	B (addition of feature),	R98	(Release 1998)
	C (functional modification of feature)	R99	(Release 1999)
	D (editorial modification)	Rel-4	(Release 4)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .	Rel-5	(Release 5)
		Rel-6	(Release 6)

Reason for change:	⌘ When the UE moves from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘ It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘ On transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘ 4.2.2.1.1, 5.4.2.3										
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> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Equivalent CRs in other Releases: CR322 cat. F to 25.123 v3.13.0, CR323 cat. A to 25.123 v4.10.0										

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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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

4.2.2.1.1 3.84 Mcps TDD option

The UE shall measure the PCCPCH RSCP level of the serving cell and evaluate the cell selection criterion S_{rxlev} defined in [18] for the serving cell at least every DRX cycle. The UE shall filter the PCCPCH RSCP measurement of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureTDD}/2$ (see table 4.1).

If the UE has evaluated in N_{serv} successive measurements that the serving cell does not fulfil the cell selection criterion S, the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [18].

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

<next changed section>

5.4 Cell Re-selection in Cell_FACH

5.4.1 Introduction

The UE shall evaluate the cell re-selection criteria specified in [18], based on radio measurements, and if a better ranked cell is found that cell is selected.

5.4.2 Requirements for 3.84Mcps TDD option

<next changed section>

5.4.2.3 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the P-CCPCH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{\text{Measurement period intra}}$.

The S-criteria detection delay in CELL_FACH state shall be less than:

$$T_{\text{S-criteria}} = 5 \times T_{\text{measurement period intra}} \text{ ms}$$

where

$T_{\text{measurement period intra}}$ is specified in 8.4.2.2.2.

If the UE has evaluated that the serving cell does not fulfil the cell selection criterion S during 4 s and if during this time period the UE has not found any new suitable cell based on measurements of neighbour cells as indicated in the measurement control system information, the UE shall consider having detected “out of service area” and initiate actions according to [16] and [18].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

CHANGE REQUEST

⌘ **25.123 CR 325** ⌘ 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:	⌘ out-of-service area for 1.28Mcps		
Source:	⌘ RAN WG4		
Work item code:	⌘ LCRTDD-RF	Date:	⌘ 26/11/2003
Category:	⌘ F	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: 2 (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)

Reason for change:	⌘ When the UE moves from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘ It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘ On transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘ 4.2.2.1.2, 5.4.3.4										
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> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications ⌘ Test specifications ⌘ O&M Specifications ⌘	Y	N		X		X		X		
Y	N										
	X										
	X										
	X										
Other comments:	⌘ Equivalent CRs in other Releases: CR326 cat. A to 25.123 v5.6.0										

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- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

<next changed section>

4.2.2.1.2 1.28 Mcps TDD option

The UE shall measure the PCCPCH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [18] for the serving cell at least every DRX cycle. The UE shall filter the PCCPCH RSCP level of the serving cell using at least 2 measurements, which are taken so that the time difference between the first measurement and the last measurement used for filtering is at least $T_{\text{measureNTDD}}/2$ (see table 4.1A).

If the UE has evaluated in N_{serv} consecutive DRX cycles that the serving cell does not fulfil the cell selection criterion S the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [18].

After this 12 s period a UE in Cell_PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to [16].

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

<next changed section>

5.4.3.4 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the P-CCPCH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{\text{Measurement_Period Intra}}$.

The S-criteria detection delay in CELL_FACH state shall be less than:

$$T_{\text{S-criteria}} = 5 \times T_{\text{Measurement_Period Intra}} \text{ ms}$$

where $T_{\text{Measurement_Period Intra}}$ is specified in 8.4A.2.2.2.

The UE is “out of service area” if the UE has evaluated for 4 s that that the serving cell does not fulfil the cell selection criterion S and if the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information during these 4 s. When the UE is “out of service area” it shall initiate cell selection procedures for the selected PLMN as defined in [18].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

CHANGE REQUEST

⌘ **25.123 CR 326** ⌘ rev ⌘ Current version: **5.6.0** ⌘

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:	⌘ out-of-service area for 1.28Mcps		
Source:	⌘ RAN WG4		
Work item code:	⌘ LCRTDD-RF	Date:	⌘ 26/11/2003
Category:	⌘ A	Release:	⌘ Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	R96	(GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R97	(Release 1996)
	B (addition of feature),	R98	(Release 1997)
	C (functional modification of feature)	R99	(Release 1998)
	D (editorial modification)	Rel-4	(Release 1999)
	Detailed explanations of the above categories can	Rel-5	(Release 4)
	be found in 3GPP TR 21.900 .	Rel-6	(Release 5)
			(Release 6)

Reason for change:	⌘ When the UE moves from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH the RRC specification requires the UE to 'select a suitable UTRA cell'. However, no UE behaviour is described for the case that no suitable UTRA cell can be found. If the UE were to continue to search for a UTRA cell indefinitely then it would not be able to find 2G cells of the RPLMN, or cells of other PLMNs if available. In this case the UE would not be able to make an emergency call even if other cells are available.
Summary of change:	⌘ It is proposed that if a suitable UTRA cell is not found then the UE moves to 'out of service' and performs actions according to 25.331. The actions described in 25.331 require an 'out of service' UE to perform cell selection on the RPLMN and after some further time to perform a search for other PLMNs.
Consequences if not approved:	⌘ On transition from CELL_DCH to CELL_FACH/CELL_PCH/URA_PCH, a UE could search for a suitable UTRA cell indefinitely and so could be denied access to emergency calls on 2G cells or cells of other PLMNs that might be available.

Clauses affected:	⌘ 4.2.2.1.2, 5.4.3.4										
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> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;">⌘</td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	⌘	X	⌘	X	⌘	X	Other core specifications	⌘
Y	N										
⌘	X										
⌘	X										
⌘	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘ Equivalent CRs in other Releases: CR325 cat. F to 25.123 v4.10.0										

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.

4.2.2.1 Measurement and evaluation of cell selection criteria S of serving cell

<next changed section>

4.2.2.1.2 1.28 Mcps TDD option

The UE shall measure the PCCPCH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [18] for the serving cell at least every DRX cycle. The UE shall filter the PCCPCH RSCP level of the serving cell using at least 2 measurements, which are taken so that the time difference between the first measurement and the last measurement used for filtering is at least $T_{\text{measureNTDD}}/2$ (see table 4.1A).

If the UE has evaluated in N_{serv} consecutive DRX cycles that the serving cell does not fulfil the cell selection criterion S the UE shall initiate the measurements of all neighbour cells indicated in the measurement control system information, regardless of the measurement rules currently limiting UE measurement activities.

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [18].

After this 12 s period a UE in Cell_PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to [16].

On transition from CELL_DCH to CELL_PCH/URA_PCH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].

<next changed section>

5.4.3.4 Measurement and evaluation of cell selection criteria S of serving cell

The S-criteria detection delay is defined as the time between the occurrence of an event which leads to that the cell selection criteria S for serving cell is not fulfilled and the moment in time when the UE detects that the cell selection criteria S for serving cell is not fulfilled.

The UE shall filter the P-CCPCH RSCP measurements used for cell selection criteria S evaluation of the serving cell over at least 3 measurement periods $T_{\text{Measurement_Period Intra}}$.

The S-criteria detection delay in CELL_FACH state shall be less than:

$$T_{\text{S-criteria}} = 5 \times T_{\text{Measurement_Period Intra}} \text{ ms}$$

where $T_{\text{Measurement_Period Intra}}$ is specified in 8.4A.2.2.2.

The UE is “out of service area” if the UE has evaluated for 4 s that that the serving cell does not fulfil the cell selection criterion S and if the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information during these 4 s. When the UE is “out of service area” it shall initiate cell selection procedures for the selected PLMN as defined in [18].

On transition from CELL_DCH to CELL_FACH, if a UE cannot find a suitable UTRA cell, then it is considered to be “out of service area” and shall perform actions according to [16].