TSG-RAN Meeting #16 Marco Island, FL, USA, 4 - 7 June 2002

Title: Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.321

Source: TSG-RAN WG2

Agenda item: 7.2.3

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-021214	agreed	25.321	115		R99	Update References to include 25.123 (TDD)	F	3.11.0	3.12.0
R2-021215	agreed	25.321	116		Rel-4	Update References to include 25.123 (TDD)	А	4.4.0	4.5.0
R2-021216	agreed	25.321	117		Rel-5	Update References to include 25.123 (TDD)	Α	5.0.0	5.1.0
R2-021443	agreed	25.321	118		R99	TFCS selection guideline correction	F	3.11.0	3.12.0
R2-021444	agreed	25.321	119		Rel-4	TFCS selection guideline correction	Α	4.4.0	4.5.0
R2-021445	agreed	25.321	120		Rel-5	TFCS selection guideline correction	Α	5.0.0	5.1.0

TSG-RAN Working Group 2 meeting #29 Gyeongju, Korea, May 13-17, 2002

R2-021214

CHANGE REQUEST												
×	25.321 CR 115											
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.												
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network												
Title:	Update References to include 25.123 (TDD)											
Source: #	TSG-RAN WG2											
Work item code: ₩	TEI Date: # 05/13/2002											
Category:	F Use one of the following categories: F (correction) A (corresponds to a correction in an earlier release) B (addition of feature), C (functional modification of feature) D (editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900. Release: R99 (R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)											
Reason for change	In the References section, document 25.123 "Requirements for support of radio resource management (TDD)" is missing.											
Summary of chang	Add the entry for document 25.123 in References section. Add the reference in 11.4.											
Consequences if not approved:	References Section incomplete. <u>Isolated impact analysis:</u> <u>Impacted functionality</u> : None.											
Clauses affected:	第 2,11.4											
Other specs	# Other core specifications # 25.321 v4.4.0, CR 116 25.321 v5.0.0, CR 117 Test specifications O&M Specifications											
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.
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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.

[14]

2 References

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- [1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications". 3GPP TS 25.301: "Radio Interface Protocol Architecture". [2] [3] 3GPP TS 25.302: "Services provided by the Physical Layer". 3GPP TS 25.303: "Interlayer Procedures in Connected Mode". [4] [5] 3GPP TS 25.304: "UE Procedures in Idle Mode and Procedures for Cell Reselection in Connected Mode". [6] 3GPP TS 25.322: "RLC Protocol Specification". [7] 3GPP TS 25.331: "Radio Resource Control (RRC); protocol specification". 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling". [8] [9] 3GPP TR 25.990: "Vocabulary for the UTRAN". [10] 3GPP TS 33.102: "Security architecture". 3GPP TS 25.425: "UTRAN Iur Interface User Plane Protocols for Common Transport Channel Data [11] Streams". 3GPP TS 25.133: "Requirements for support of radio resource management (FDD)". [12] [13] 3GPP TS 25.214: "Physical layer procedures (FDD)".

3GPP TS 25.123: "Requirements for support of radio resource management (TDD)".

RRC can control the scheduling of uplink data by giving each logical channel a priority between 1 and 8, where 1 is the highest priority and 8 the lowest. TFC selection in the UE shall be done in accordance with the priorities indicated by RRC. Logical channels have absolute priority, i.e. the UE shall maximise the transmission of higher priority data.

If the uplink TFCS configured by UTRAN follows the guidelines described in [7] the UE shall perform the TFC selection according to the rules specified below. If these guidelines are not followed then the method by which the UE performs TFC selection is not specified.

The UE shall continuously monitor the state for each TFC based on its required transmit power versus the maximum UE transmit power. A given TFC can be in any of the following states:

- Supported state;
- Excess-power state;
- Blocked state.

The following diagram illustrates the state transitions for the state of a given TFC:

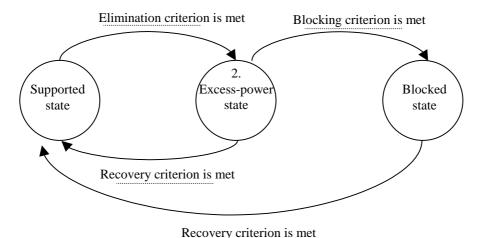


Figure 11.4.1: State transitions for the state of a given TFC

The state transition criteria and the associated requirements are described in [12,14]. The UE shall consider that the Blocking criterion is never met for TFCs included in the minimum set of TFCs (see [7]).

Every time the set of supported TFCs changes, the available bitrate shall be indicated to upper layers for each logical channel in order to facilitate the adaptation of codec data rates when codecs supporting variable-rate operation are used. The details of the computation of the available bitrate and the interaction with the application layer are not further specified.

- 1. belong to the TFCS.
- 2. not be in the Blocked state.
- 3. be compatible with the RLC configuration.
- 4. not require RLC to produce padding PDUs (see [6] for definition).

5. not carry more bits than can be transmitted in a TTI (e.g. when compressed mode by higher layer scheduling is used and the presence of compressed frames reduces the number of bits that can be transmitted in a TTI using the Minimum SF configured).

The UE may remove from the set of valid TFCs, TFCs in Excess-power state in order to maintain the quality of service for sensitive applications (e.g. speech). Additionally, if compressed frames are present within the longest configured TTI to which the next transmission belongs, the UE may remove TFCs from the set of valid TFCs in order to account for the higher power requirements.

The chosen TFC shall be selected from within the set of valid TFCs and shall satisfy the following criteria in the order in which they are listed below:

- 1. No other TFC shall allow the transmission of more highest priority data than the chosen TFC.
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- 3. No other TFC shall have a lower bit rate than the chosen TFC.

TSG-RAN Working Group 2 meeting #29 Gyeongju, Korea, May 13-17, 2002

R2-021215

CHANGE REQUEST												
*	25.321 CR 116											
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.												
Proposed change affects: # (U)SIM ME/UE Radio Access Network Core Network Core Network **The state of the sta												
Title: #	Update References to include 25.123 (TDD)											
Source: 第	TSG-RAN WG2											
Work item code: ₩	TEI Date: 第 05/13/2002											
Category: 第	ARelease: ₩REL-4Use one of the following categories:Use one of the following releases:F (correction)2 (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)											
Reason for change	In the References section, document 25.123 "Requirements for support of radio resource management (TDD)" is missing.											
Summary of chang	Add the entry for document 25.123 in References section. Add the reference in 11.4.											
Consequences if not approved:	References Section incomplete. <u>Isolated impact analysis:</u> <u>Impacted functionality</u> : None.											
Clauses affected:	₩ 2, 11.4											
Other specs	# Other core specifications # 25.321 v3.11.0, CR 115 25.321 v5.0.0, CR 117 Test specifications O&M Specifications											
Other comments:	*											

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The following diagram illustrates the state transitions for the state of a given TFC:

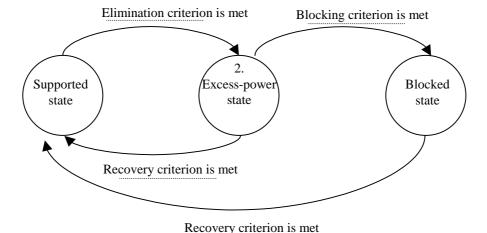


Figure 11.4.1: State transitions for the state of a given TFC

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Every time the set of supported TFCs changes, the available bitrate shall be indicated to upper layers for each logical channel in order to facilitate the adaptation of codec data rates when codecs supporting variable-rate operation are used. The details of the computation of the available bitrate and the interaction with the application layer are not further specified.

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- 3. No other TFC shall have a lower bit rate than the chosen TFC.

TSG-RAN Working Group 2 meeting #29 Gyeongju, Korea, May 13-17, 2002

R2-021216

CHANGE REQUEST												
*	25.321 CR 117											
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the % symbols.												
Proposed change affects: # (U)SIM ME/UE X Radio Access Network X Core Network												
Title: #	Update References to include 25.123 (TDD)											
Source: 第	TSG-RAN WG2											
Work item code: ₩	TEI Date: 第 05/13/2002											
Category: 第	ARelease: ₩REL-5Use one of the following categories:Use one of the following releases:F (correction)2 (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)											
Reason for change	In the References section, document 25.123 "Requirements for support of radio resource management (TDD)" is missing.											
Summary of chang	Add the entry for document 25.123 in References section. Add the reference in 11.4.											
Consequences if not approved:	# References Section incomplete. Isolated impact analysis: Impacted functionality: None.											
Clauses affected:	第 2, 11.4											
Other specs	# Other core specifications # 25.321 v3.11.0, CR 115 25.321 v4.4.0, CR 116 Test specifications O&M Specifications											
Other comments:	*											

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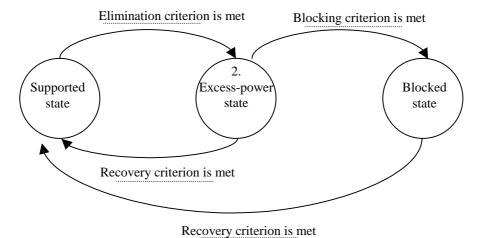


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CHANGE REQUEST											
*	25	.321	CR 118	ж re	ev	- #	Current vers	ion: 3.11.0 #			
For <u>HELP</u> on using this form, see bottom of this page or look at the pop-up text over the # symbols.											
Proposed change affects:											
Title:	ж TF	CS sel	ection guidelin	e correction							
Source:	ж <mark>тѕ</mark>	G-RAN	WG2								
Work item code	e:# TE	I					Date: ∺	15.05.2002			
Reason for cha	Deta be fo	F (corn A (corn B (add C (fund D (edit ailed expound in	responds to a colition of feature) ctional modificational modification of the 3GPP TR 21.90	correction in a state of the st	e) gories c ehavio et of T	an ur is no FCs in	2 se) R96 R97 R98 R99 REL-4 REL-5	R99 the following releases: (GSM Phase 2) (Release 1996) (Release 1997) (Release 1998) (Release 1999) (Release 4) (Release 5) The UTRAN does not e interaction between			
Summary of ch	ange: ₩	minim - The The C The in Impac	clarified that the turn set of TFC interaction bet R has only UE teraction between ton T1 test spennact foreseen	es (see 25.3 ween the The impact. If the en TFC selec	31) is i FC sele ne CR i	missing ection a is not in	g. and AMR code nplemented in	the UE:			
Consequences not approved:	if %	Uncle		Ambiguous	intera	ction b	etween TFC s	election and AMR			
Clauses affecte	ed: #	11.4									
Other specs affected: Other commen	策 ts: 第	Te O	ther core spec est specificatio &M Specificati	ns			v4.4.0, CR 1: v5.0.0, CR 1:				

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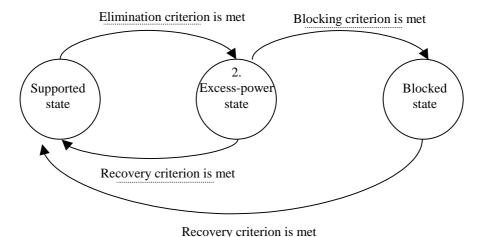


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For HELP on using this form, see bottom of this page or look at the pop-up text over the \$\pi\$ symbols. Proposed change affects: \$\pi\$ (U)SIM ME/UE X Radio Access Network Core Network Title: \$\pi\$ TFCS selection guideline correction Source: \$\pi\$ TSG-RAN WG2 Work item code: \$\pi\$ TEI Date: \$\pi\$ 15.05.2002 Category: \$\pi\$ A Use one of the following categories: Use one of the following releases: 2 (GNA Phase 2) (GNA	CHANGE REQUEST										
Proposed change affects: \$\pi\$ (U)SIM	ж <mark>2</mark>	5.321	CR 119	≋ rev	-	# (Current vers	ion: 4.4.	0 #		
Title: # TFCS selection guideline correction Source: # TSG-RAN WG2 Work item code: # TEI	For <u>HELP</u> on using	g this form	, see bottom o	f this page c	r look a	at the	pop-up text	over the #	symbols.		
Source: # TSG-RAN WG2 Work item code: # TEI	Proposed change affe	ects: #	(U)SIM	ME/UE X	Radio	o Acc	ess Network	Core	Network		
Work item code: \$ TEI Date: \$ 15.05.2002 Category: \$ A Use one of the following categories: Use one of the following releases: F (correction) A (corresponds to a correction in an earlier release) R96 (Release 1996) B (addition of feature), C (functional modification) R97 (Release 1997) C (functional modification) R99 (Release 1998) Detailed explanations of the above categories can be found in 3GPP TR 21.900. Reason for change: \$ The TFC selection algorithm behaviour is not defined when UTRAN does not include at least the minimum set of TFCs in the TFCS. The interaction between the TFC selection and the UE is unclear. Summary of change: \$ -It is clarified that the UTRAN behaviour is undefined when the TFCs in the minimum set of TFCs (see 25.331) is missing The interaction between the TFC selection and AMR codec is clarified. The CR has only UE impact. If the CR is not implemented in the UE: The interaction between TFC selection and AMR codec is unclear. Impact on T1 test specs: - No impact foreseen Consequences if motion of feature and form of the provided of the codec. Clauses affected: \$ 11.4 Other specs	Title:	FCS selec	ction guideline o	correction							
Category: ## A Use one of the following categories: F (correction)	Source: # T	SG-RAN '	WG2								
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How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G Specs/CRs.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.
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RRC can control the scheduling of uplink data by giving each logical channel a priority between 1 and 8, where 1 is the highest priority and 8 the lowest. TFC selection in the UE shall be done in accordance with the priorities indicated by RRC. Logical channels have absolute priority, i.e. the UE shall maximise the transmission of higher priority data.

If the uplink TFCS configured by UTRAN follows the guidelines described in [7] the UE shall perform the TFC selection according to the rules specified below. If these guidelines are not followed then the method by which the UE performs TFC selection behavior is not specified.

The UE shall continuously monitor the state for each TFC based on its required transmit power versus the maximum UE transmit power. A given TFC can be in any of the following states:

- Supported state;
- Excess-power state;
- Blocked state.

The following diagram illustrates the state transitions for the state of a given TFC:

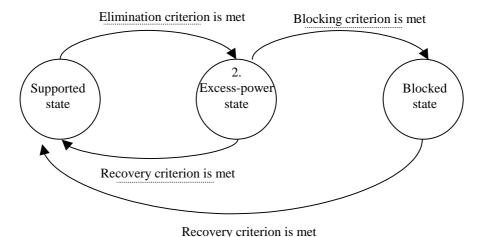


Figure 11.4.1: State transitions for the state of a given TFC

The state transition criteria and the associated requirements are described in [12]. The UE shall consider that the Blocking criterion is never met for TFCs included in the minimum set of TFCs (see [7]).

Every time the set of supported TFCs changes, the available bitrate shall be indicated to upper layers for each logical channel in order to facilitate the adaptation of codec data rates when codecs supporting variable-rate operation are used. The details of the computation of the available bitrate and the interaction with the application layer are not further specified.

- 1. belong to the TFCS.
- 2. not be in the Blocked state.
- 3. be compatible with the RLC configuration.
- 4. not require RLC to produce padding PDUs (see [6] for definition).
- 5. not carry more bits than can be transmitted in a TTI (e.g. when compressed mode by higher layer scheduling is used and the presence of compressed frames reduces the number of bits that can be transmitted in a TTI using the Minimum SF configured).

The UE may remove from the set of valid TFCs, TFCs in Excess-power state in order to maintain the quality of service for sensitive applications (e.g. speech). Additionally, if compressed frames are present within the longest configured TTI to which the next transmission belongs, the UE may remove TFCs from the set of valid TFCs in order to account for the higher power requirements.

The chosen TFC shall be selected from within the set of valid TFCs and shall satisfy the following criteria in the order in which they are listed below:

- 1. No other TFC shall allow the transmission of more highest priority data than the chosen TFC.
- 2. No other TFC shall allow the transmission of more data from the next lower priority logical channels. Apply this criterion recursively for the remaining priority levels.
- 3. No other TFC shall have a lower bit rate than the chosen TFC.

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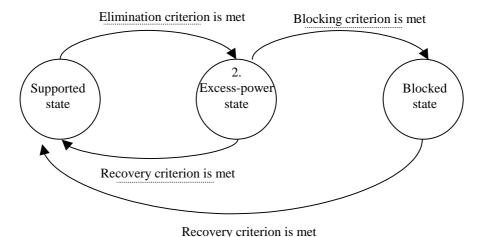


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