TSG-RAN Meeting #18 ***RP-020716***

***New-Orleans, USA, 03* - 06 December 2002**

Title: **CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.304**

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Versio	Versio
R2-023044	agreed	25.304	102	-	R99	Highest HCS priority	F	3.11.0	3.12.0
R2-023045	agreed	25.304	103	-	Rel-4	Highest HCS priority	A	4.5.0	4.6.0
R2-023046	agreed	25.304	104	-	Rel-5	Highest HCS priority	A	5.1.0	5.2.0

3GPP TSG-RAN WG2 Meeting #33 ***Tdoc ⌘R2-023044***
Sophia Antipolis, France, November 12 – 15, 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.304** **CR** **102** ⌘ **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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Highest HCS priority
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	30/10/2002
Category:	⌘	**F**
Release:	⌘	R99

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.

Use one 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: ⌘ In subclause 5.2.6.1.5, Cell reselection parameters in system information broadcasts, the parameters HCS_PRIO_s, HCS_PRIO_n are defined. According to the current specification these parameters specify the HCS priority level (0-7) for serving cell and neighbouring cells.
However, in UTRAN it is not described how the coding of the HCS priority level is mapped to highest and lowest priorities.
Since a description of this mapping is available in GSM but not in UTRAN specifications this change is provided for 25.304.

Summary of change: ⌘ It is clarified in 5.2.6.1.5 that HCS priority level 0 means lowest priority and 7 means highest priority.

Isolated Impact change analysis:

If the UE does not implement the CR:
The UE may interpret the HCS priority level in a different way than it is configured by UTRAN.

If UTRAN does not implement the CR:
UTRAN may configure the HCS priority level in a different way than it is expected by the UE.

If both UTRAN and UE do not implement the CR:
The UE may interpret the HCS priority level in a different way than it is configured by UTRAN.

Consequences if ⌘ The meaning of the HCS priority levels is not clear because it is not specified

not approved:	whether HCS priority level 0 means lowest priority or highest priority. Thus the UE can misinterpret the HCS priority level configured by the UTRAN, e.g. it can interpret cells with highest priority as lowest priority cells, and vice versa.

Clauses affected:	⌘	5.2.6.1.5			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	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.

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.

5.2.6.1.5 Cell reselection parameters in system information broadcasts

The selection of values for network controlled parameters can be optimised by means of different methods. Examples of methods are described in [6]. Cell reselection parameters are broadcast in system information and are read in the serving cell as follows:

$Qoffset1_{s,n}$

This specifies the offset between the two cells. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$Qoffset2_{s,n}$

This specifies the offset between the two cells. It is used for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH Ec/No.

$Qhyst1_s$

This specifies the hysteresis value (Qhyst). It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$Qhyst2_s$

This specifies the hysteresis value (Qhyst). It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No.

HCS_PRIO_s, HCS_PRIO_n

This specifies the HCS priority level (0-7) for serving cell and neighbouring cells.

HCS priority level 0 means lowest priority and HCS priority level 7 means highest priority.

$Qhcs_s$, $Qhcs_n$

This specifies the quality threshold levels for applying prioritised hierarchical cell re-selection.

Qqualmin

This specifies the minimum required quality level in the cell in dB. It is not applicable for TDD cells or GSM cells.

Qrxlevmin

This specifies the minimum required RX level in the cell in dBm.

$PENALTY\_TIME_n$

This specifies the time duration for which the $TEMPORARY\_OFFSET_n$ is applied for a neighbouring cell.

$TEMPORARY\_OFFSET1_n$

This specifies the offset applied to the H and R criteria for a neighbouring cell for the duration of $PENALTY\_TIME_n$. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$TEMPORARY\_OFFSET2_n$

This specifies the offset applied to the H and R criteria for a neighbouring cell for the duration of $PENALTY\_TIME_n$. It is used for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH Ec/No.

T_{CRmax}

This specifies the duration for evaluating allowed amount of cell reselection(s).

N_{CR}

This specifies the maximum number of cell reselections.

$T_{CRmaxHyst}$

This specifies the additional time period before the UE can revert to low-mobility measurements.

$Treselection_s$

This specifies the cell reselection timer value.

$Ssearch_{HCS}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the limit for Srxlev in the serving cell below which the UE shall initiate measurements of all neighbouring cells of the serving cell.

$Ssearch_{RAT\ 1}$ - $Ssearch_{RAT\ k}$

This specifies the RAT specific threshold in the serving cell used in the inter-RAT measurement rules.

$S_{HCS,RATm}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the RAT specific threshold in the serving cell used in the inter-RAT measurement rules.

$S_{intrasearch}$

This specifies the threshold (in dB) for intra frequency measurements and for the HCS measurement rules.

$S_{intersearch}$

This specifies the threshold (in dB) for inter-frequency measurements and for the HCS measurement rules.

$S_{limit,SearchRATm}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the RAT specific threshold (in dB) in the serving UTRA cell above which the UE need not perform any inter-RAT measurements in RAT "m".

3GPP TSG-RAN WG2 Meeting #33 ***Tdoc ⌘R2-023045***
Sophia Antipolis, France, November 12 – 15, 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.304** **CR** **103** ⌘ **rev** **-** ⌘ Current version: **4.5.0** ⌘

*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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Highest HCS priority
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	30/10/2002
Category:	⌘	**A**
Release:	⌘	Rel-4

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)*
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Use one 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: ⌘ In subclause 5.2.6.1.5, Cell reselection parameters in system information broadcasts, the parameters HCS_PRIO_s, HCS_PRIO_n are defined. According to the current specification these parameters specify the HCS priority level (0-7) for serving cell and neighbouring cells.
However, it is not described how the coding of the HCS priority level is mapped to highest and lowest priorities.
Since a description of this mapping is available in GSM but not in UTRAN specifications this change is provided for 25.304.

Summary of change: ⌘ It is clarified in 5.2.6.1.5 that HCS priority level 0 means lowest priority and 7 means highest priority.

Isolated Impact change analysis:

If the UE does not implement the CR:
The UE may interpret the HCS priority level in a different way than it is configured by UTRAN.

If UTRAN does not implement the CR:
UTRAN may configure the HCS priority level in a different way than it is expected by the UE.

If both UTRAN and UE do not implement the CR:
The UE may interpret the HCS priority level in a different way than it is configured by UTRAN.

Consequences if ⌘ The meaning of the HCS priority levels is not clear because it is not specified

not approved:	whether HCS priority level 0 means lowest priority or highest priority. Thus the UE can misinterpret the HCS priority level configured by the UTRAN, e.g. it can interpret cells with highest priority as lowest priority cells, and vice versa.

Clauses affected:	⌘	5.2.6.1.5			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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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.

5.2.6.1.5 Cell reselection parameters in system information broadcasts

The selection of values for network controlled parameters can be optimised by means of different methods. Examples of methods are described in [6]. Cell reselection parameters are broadcast in system information and are read in the serving cell as follows:

$Qoffset1_{s,n}$

This specifies the offset between the two cells. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$Qoffset2_{s,n}$

This specifies the offset between the two cells. It is used for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH Ec/No.

$Qhyst1_s$

This specifies the hysteresis value (Qhyst). It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$Qhyst2_s$

This specifies the hysteresis value (Qhyst). It is used for FDD cells if the quality measure for cell selection and re-selection is set to CPICH Ec/No.

HCS_PRIO_s, HCS_PRIO_n

This specifies the HCS priority level (0-7) for serving cell and neighbouring cells.

HCS priority level 0 means lowest priority and HCS priority level 7 means highest priority.

$Qhcs_s$, $Qhcs_n$

This specifies the quality threshold levels for applying prioritised hierarchical cell re-selection.

Qqualmin

This specifies the minimum required quality level in the cell in dB. It is not applicable for TDD cells or GSM cells.

Qrxlevmin

This specifies the minimum required RX level in the cell in dBm.

$PENALTY\_TIME_n$

This specifies the time duration for which the $TEMPORARY\_OFFSET_n$ is applied for a neighbouring cell.

$TEMPORARY\_OFFSET1_n$

This specifies the offset applied to the H and R criteria for a neighbouring cell for the duration of $PENALTY\_TIME_n$. It is used for TDD and GSM cells and for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH RSCP.

$TEMPORARY\_OFFSET2_n$

This specifies the offset applied to the H and R criteria for a neighbouring cell for the duration of $PENALTY\_TIME_n$. It is used for FDD cells in case the quality measure for cell selection and re-selection is set to CPICH Ec/No.

T_{CRmax}

This specifies the duration for evaluating allowed amount of cell reselection(s).

N_{CR}

This specifies the maximum number of cell reselections.

$T_{CRmaxHyst}$

This specifies the additional time period before the UE can revert to low-mobility measurements.

$Treselection_s$

This specifies the cell reselection timer value.

$Ssearch_{HCS}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the limit for Srxlev in the serving cell below which the UE shall initiate measurements of all neighbouring cells of the serving cell.

$Ssearch_{RAT\ 1}$ - $Ssearch_{RAT\ k}$

This specifies the RAT specific threshold in the serving cell used in the inter-RAT measurement rules.

$S_{HCS,RATm}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the RAT specific threshold in the serving cell used in the inter-RAT measurement rules.

$S_{intrasearch}$

This specifies the threshold (in dB) for intra frequency measurements and for the HCS measurement rules.

$S_{intersearch}$

This specifies the threshold (in dB) for inter-frequency measurements and for the HCS measurement rules.

$S_{limit,SearchRATm}$

This threshold is used in the measurement rules for cell re-selection when HCS is used. It specifies the RAT specific threshold (in dB) in the serving UTRA cell above which the UE need not perform any inter-RAT measurements in RAT "m".

3GPP TSG-RAN WG2 Meeting #33 ***Tdoc ⌘R2-023046***
Sophia Antipolis, France, November 12 – 15, 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.304** **CR** **104** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Highest HCS priority
Source:	⌘	Siemens AG
Work item code:	⌘	TEI
Date:	⌘	30/10/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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Reason for change: ⌘ In subclause 5.2.6.1.5, Cell reselection parameters in system information broadcasts, the parameters HCS_PRIO_s, HCS_PRIO_n are defined. According to the current specification these parameters specify the HCS priority level (0-7) for serving cell and neighbouring cells.
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Summary of change: ⌘ It is clarified in 5.2.6.1.5 that HCS priority level 0 means lowest priority and 7 means highest priority.

Isolated Impact change analysis:

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not approved:	whether HCS priority level 0 means lowest priority or highest priority. Thus the UE can misinterpret the HCS priority level configured by the UTRAN, e.g. it can interpret cells with highest priority as lowest priority cells, and vice versa.

Clauses affected:	⌘	5.2.6.1.5			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			Test specifications		
			O&M Specifications		
Other comments:	⌘				

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