TSG-RAN Meeting #22 **RP-030612**
Maui, USA, 09-12 December 2003

Title: **Measured results on RACH: 25.331 CRs to R'99, Rel-4 and Rel-5**

Source: **TSG-RAN WG2**

Agenda item: **7.3.3**

CR	Rev	Phase	Subject	Cat	Version-Current	Version-New	Doc-2nd-Level	Workitem
2156	4	R99	Measured results on RACH	F	3.16.0	3.17.0	R2-032722	TEI
2157	4	Rel-4	Measured results on RACH	A	4.11.0	4.12.0	R2-032723	TEI
2158	4	Rel-5	Measured results on RACH	F	5.6.0	5.7.0	R2-032724	TEI

TSG-RAN Working Group 2 meeting #39 **R2-032722**
San Diego, USA, 17th – 21st November 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2156** ⌘ **rev** **4** ⌘ Current version: **3.16.0** ⌘

*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:	⌘	Measured results on RACH
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	Nov 2003
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: ⌘ When reporting Measurement results on RACH, it is currently not clear how UE shall order the measured results for monitored cells. In section 10.3.7.45, it is stated that UE shall order the measured according to a "measurement quantity". However, it is not clear which IE is meant. It seems that the specification opens up for two interpretations:

1. Order the measured results according to the IE "Intra-frequency measurement quantity". This IE appears immediately above the IEs "Intra-frequency reporting quantity for RACH" and "Maximum number of reported cells on RACH" in SIB11/12. Note also that the IE "Intra-frequency measurement quantity" is used to order measured results in Measurement Reports sent in Cell_DCH.

2. Order the measured results according to the reported quantity, i.e. IE "Intra-frequency reporting quantity for RACH Reporting".

It is proposed to clarify that the UE should order the measured results according to the reported quantity, i.e. IE "Intra-frequency reporting quantity for RACH Reporting".

To avoid any ambiguity whether the UE shall include the Measurement report on RACH, it is proposed to clarify that;

if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" are included in System Information Block type 11 or 12; the UE shall include a measurement report in the IE "Measured results on RACH",

Summary of change: ⌘ Section 8.5.23:

It is clarified that;

if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum

		number of reported cells on RACH" are included in System Information Block type 11 or 12; the UE shall include a measurement report in the IE "Measured results on RACH", Section 10.3.7.45: It is clarified that UE should use the IE "Intra-frequency reporting quantity for RACH Reporting" as measurement quantity for the ordering of the measurement results for monitored cells. **T1 impact:** No impact **Backward compatibility:** Considered as a clarification of UE behaviour in a case where the specification is unclear.
Consequences if not approved:	⌘	The specification will remain unclear leading to a UE may us an erroneous measurement quantity and may not include the Measurement report on RACH as intended.

Clauses affected:	⌘	8.5.23, 10.3.7.45			
Other specs Affected:	⌘	Y	N		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
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 request.

8.5.23 Measured results on RACH

When transmitting an uplink RRC message, the UE shall:

1> if the uplink RRC message is an RRC CONNECTION REQUEST message:

2> ~~include a measurement report in the IE "Measured results on RACH", as specified in~~ if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" are included in System Information Block type 11~~;~~.

3> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 11.

1> for any other uplink RRC message which optionally includes the IE "Measured results on RACH":

2> ~~include a measurement report in the IE "Measured results on RACH", as specified in~~ if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" are included in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast).

3> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast).

1> include in the IE "Measured results on RACH" all requested reporting quantities for cells for which measurements are reported.

NOTE: The UE only includes measurement results for neighbour cells for which valid measurements are available at the time the message is sent. At cell access following selection or reselection to a cell, the UE may not have had sufficient time to obtain valid measurement results for neighbour cells.

1> for messages transmitted on CCCH, take care that the maximum allowed message size is not exceeded when forming the IE "Measured results on RACH", i.e. limit the number of included neighbour cells or if required omit the IE "Measured results on RACH" altogether.

If the IE "Measured results on RACH" is present in the message, the UTRAN should extract the contents to be used for radio resource control.

10.3.7.45 Measured results on RACH

Contains the measured results on RACH of the quantity indicated ~~optionally~~ by Reporting q~~Q~~uantity in the IE "Intra-frequency reporting quantity for RACH Reporting" in system information broadcast on BCH. The list, measurement results for monitored cells (not including the current cell), should be in the order of the value of the measurement quan~~t~~tity as indicated by Reporting Quantity in the IE "Intra-frequency reporting quantity for RACH Reporting" (the first cell should be the best cell). The "best" FDD cell has the largest value when the measurement quantity is "Ec/No" or "RSCP". On the other hand, the "best" cell has the smallest value when the measurement quantity is "Pathloss". The "best" TDD cell has the largest value when measurement quantity is "Primary CCPCH RSCP".

Information Element/group name	Need	Multi	Type and reference	Semantics description
Measurement result for current cell				
CHOICE *mode*	MP			
>FDD				
>>CHOICE *measurement quantity*	MP			One spare value is needed.
>>>CPICH Ec/N0			Integer(0..49)	In dB. According to CPICH_Ec/No in [19]. Fourteen spare values are needed.
>>>CPICH RSCP			Integer(0..91)	In dBm. According to CPICH_RSCP_LEV in [19]. Thirty-six spare values are needed.
>>>Pathloss			Integer(46..158)	In dB. Fifteen spare values are needed.
>TDD				
>>Timeslot List	OP	1 to 14		
>>>Timeslot ISCP	MP		Timeslot ISCP info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
Measurement results for monitored cells	OP	1 to 8		
>SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.63	
>CHOICE *mode*	MP			
>>FDD				
>>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>>>CHOICE *measurement quantity*	OP			One spare value is needed.
>>>>CPICH Ec/N0			Integer(0..49)	In dB. According to CPICH_Ec/No in [19]. Fourteen spare values are needed.
>>>>CPICH RSCP			Integer(0..91)	In dBm. According to CPICH_RSCP_LEV in [19]. Thirty-six spare values are needed.
>>>>Pathloss			Integer(46..158)	In dB. Fifteen spare values are needed.
>>TDD				

Information Element/group name	Need	Multi	Type and reference	Semantics description
>>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>>Primary CCPCH RSCP	MP		Primary CCPCH RSCP info 10.3.7.54	

NOTE: Monitored cells consist of neighbouring cells.

TSG-RAN Working Group 2 meeting #39 **R2-032723**
San Diego, USA, 17th – 21st November 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2157** ⌘ **rev** **4** ⌘ Current version: **4.11.0** ⌘

*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:	⌘	Measured results on RACH
Source:	⌘	RAN WG2
Work item code:	⌘	TEI
Date:	⌘	Nov 2003
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)*
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Reason for change: ⌘ When reporting Measurement results on RACH, it is currently not clear how UE shall order the measured results for monitored cells. In section 10.3.7.45, it is stated that UE shall order the measured according to a "measurement quantity". However, it is not clear which IE is meant. It seems that the specification opens up for two interpretations:

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2. Order the measured results according to the reported quantity, i.e. IE "Intra-frequency reporting quantity for RACH Reporting".

It is proposed to clarify that the UE should order the measured results according to the reported quantity, i.e. IE "Intra-frequency reporting quantity for RACH Reporting".

To avoid any ambiguity whether the UE shall include the Measurement report on RACH, it is proposed to clarify that;

if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" are included in System Information Block type 11 or 12; the UE shall include a measurement report in the IE "Measured results on RACH",

Summary of change: ⌘ Section 8.5.23:

It is clarified that;

if the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum

		number of reported cells on RACH" are included in System Information Block type 11 or 12; the UE shall include a measurement report in the IE "Measured results on RACH", Section 10.3.7.45: It is clarified that UE should use the IE "Intra-frequency reporting quantity for RACH Reporting" as measurement quantity for the ordering of the measurement results for monitored cells. **T1 impact:** No impact **Backward compatibility:** Considered as a clarification of UE behaviour in a case where the specification is unclear.
Consequences if not approved:	⌘	The specification will remain unclear leading to a UE may us an erroneous measurement quantity and may not include the Measurement report on RACH as intended.

Clauses affected:	⌘	8.5.23, 10.3.7.45			
Other specs Affected:	⌘	Y / N		⌘	
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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3> include a measurement report in the IE "Measured results on RACH", as specified in the IE "Intra-frequency reporting quantity for RACH reporting" and the IE "Maximum number of reported cells on RACH" in System Information Block type 12 (or "System Information Block Type 11" if "System Information Block Type 12" is not being broadcast).

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Information Element/group name	Need	Multi	Type and reference	Semantics description
Measurement result for current cell				
CHOICE *mode*	MP			
>FDD				
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>>>Pathloss			Integer(46..158)	In dB. Fifteen spare values are needed.
>TDD				
>>Timeslot List	OP	1 to 14		
>>>Timeslot ISCP	MP		Timeslot ISCP info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
Measurement results for monitored cells	OP	1 to 8		
>SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.63	
>CHOICE *mode*	MP			
>>FDD				
>>>Primary CPICH info	MP		Primary CPICH info 10.3.6.60	
>>>CHOICE *measurement quantity*	OP			One spare value is needed.
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>>TDD				

Information Element/group name	Need	Multi	Type and reference	Semantics description
>>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>>Primary CCPCH RSCP	MP		Primary CCPCH RSCP info 10.3.7.54	

NOTE: Monitored cells consist of neighbouring cells.

TSG-RAN Working Group 2 meeting #39 **R2-032724**
San Diego, USA, 17th – 21st November 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **2158** ⌘ **rev** **4** ⌘ Current version: **5.6.0** ⌘

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Work item code:	⌘	TEI
Date:	⌘	Nov 2003
Category:	⌘	**F**
Release:	⌘	Rel-5

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Information Element/group name	Need	Multi	Type and reference	Semantics description
Measurement result for current cell				
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>TDD				
>>Timeslot List	OP	1 to 14		
>>>Timeslot ISCP	MP		Timeslot ISCP info 10.3.7.65	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.54	
Measurement results for monitored cells	OP	1 to 8		
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>>TDD				

Information Element/group name	Need	Multi	Type and reference	Semantics description
>>>Cell parameters Id	MP		Cell parameters Id 10.3.6.9	
>>>Primary CCPCH RSCP	MP		Primary CCPCH RSCP info 10.3.7.54	

NOTE: Monitored cells consist of neighbouring cells.