TSG-RAN Meeting #17 ***RP-020542***
Biarritz, France, 3 - 6 September 2002

Title: **Agreed CRs (Release '99 and Rel-4/Rel-5 category A) to TS 25.331**

Source: **TSG-RAN WG2**

Agenda item: **7.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Versio	Versio
R2-021750	agreed	25.331	1526	1	R99	Corrections of UE internal measurement reporting events	F	3.11.0	3.12.0
R2-021751	agreed	25.331	1527	1	Rel-4	Corrections of UE internal measurement reporting events	A	4.5.0	4.6.0
R2-021752	agreed	25.331	1528	1	Rel-5	Corrections of UE internal measurement reporting events	A	5.1.0	5.2.0
R2-022226	agreed	25.331	1529	2	R99	UE behaviour upon reception of reconfiguration	F	3.11.0	3.12.0
R2-022227	agreed	25.331	1530	2	Rel-4	UE behaviour upon reception of reconfiguration	A	4.5.0	4.6.0
R2-022228	agreed	25.331	1531	2	Rel-5	UE behaviour upon reception of reconfiguration	A	5.1.0	5.2.0
R2-021719	agreed	25.331	1532		R99	Application of integrity keys in case of a pending CN	F	3.11.0	3.12.0
R2-021638	agreed	25.331	1533		Rel-4	Application of integrity keys in case of a pending CN	A	4.5.0	4.6.0
R2-021639	agreed	25.331	1534		Rel-5	Application of integrity keys in case of a pending CN	A	5.1.0	5.2.0
R2-022334	agreed	25.331	1535	1	R99	Clarifications for Quality Measurements	F	3.11.0	3.12.0
R2-022335	agreed	25.331	1536	1	Rel-4	Clarifications for Quality Measurements	A	4.5.0	4.6.0
R2-022336	agreed	25.331	1537	1	Rel-5	Clarifications for Quality Measurements	A	5.1.0	5.2.0
R2-021720	agreed	25.331	1538		R99	Correction of DPCH constant value in TDD default radio configuration	F	3.11.0	3.12.0
R2-021723	agreed	25.331	1539		Rel-4	Correction of DPCH constant value in TDD default radio configuration	A	4.5.0	4.6.0
R2-021724	agreed	25.331	1540		Rel-5	Correction of DPCH constant value in TDD default radio configuration	A	5.1.0	5.2.0
R2-021728	agreed	25.331	1541		R99	UE internal measurement information in broadcast	F	3.11.0	3.12.0
R2-021729	agreed	25.331	1542		Rel-4	UE internal measurement information in broadcast	A	4.5.0	4.6.0
R2-021730	agreed	25.331	1543		Rel-5	UE internal measurement information in broadcast	A	5.1.0	5.2.0

3GPP TSG-RAN WG2 Meeting #30
Turin, Italy, 24th – 27th June 2002

Tdoc ⌘R2-021750

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1526** ⌘ **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: ⌘	Corrections of UE internal measurement reporting events	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 18/06/2002
Category: ⌘	**F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(correction)*
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D *(editorial modification)*
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R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

The current description of UE internal measurement reporting events (6a to 6g) does not completely describe the edge triggered behaviour and of 6x events and the reporting functionality:

It is not clearly described the behaviour in presence of a time to trigger, which demands that the trigger condition should be kept for some time.

It is not completely defined when the UE should start to evaluate the event again, once a report was sent.

Summary of change: ⌘

The current description of UE internal measurement reporting events (6a to 6g) is interpreted to have an edge triggered behaviour.

For each event, a variable (TRIGGERED_6x_EVENT:boolean) is introduced to store the trigger state of this event.

The proposed change introduces a trigger condition and a leaving trigger condition for each event which corresponds to the following interpretation of the current description:

The expression "becomes larger/less than a threshold" is changed to:

if the corresponding variable is set to FALSE and if the value is greater/less than this threshold during "time_to_trigger"

with the leaving condition:

if the corresponding variable is set to TRUE and if the value is less/greater or equal this threshold.

The expression "reaches a limit" is changed to:

if the corresponding variable is set to FALSE and if the value is equal this limit during "time_to_trigger"

with the leaving condition:

if the corresponding variable is set to TRUE
and if the value is less/greater this limit.

The proposed event evaluation procedures are based on this trigger conditions and leaving trigger conditions:

After the trigger condition is fulfilled, a report is sent and the corresponding variable is set to TRUE. As long as this variable stays set to TRUE, no more reports are sent. After the leaving trigger condition is fulfilled the variable is set to FALSE again.

For events 6f and 6g this is done per RL.

Isolated impact analysis:

Affected Functionality: UE internal measurements reporting events

Correction to a function where specification was ambiguous/not sufficiently explicit/missing procedural text or rules/containing some contradiction. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

If the UE does not implement this CR:

The edge triggered behaviour might not be implemented correctly and there may be more or less reports than expected by UTRAN.

If the UTRAN does not implement this CR:

The edge triggered behaviour might not be assumed correctly and there may be more or less reports than expected.

34.108:

The current specification contains no references to the concerned functions.

34.123

The current state of the specification reflects the behaviour according to the proposed description.

Consequences if not approved:	⌘	The evaluation of 6x events and reporting is not completely described.

Clauses affected:	⌘	13.4.27.fx, 14.6			
Other specs affected:	⌘	**Y** / **N**		⌘	
			N Other core specifications		
			N Test specifications		
			N 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.

13.4.27fx TRIGGERED_6A_EVENT

This variable contains information about a 6a event that has been configured in the UE. There is one such variable per 6a event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6B_EVENT

This variable contains information about a 6b event that has been configured in the UE. There is one such variable per 6b event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6C_EVENT

This variable contains information about a 6c event that has been configured in the UE. There is one such variable per 6c event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6D_EVENT

This variable contains information about a 6d event that has been configured in the UE. There is one such variable per 6d event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6E_EVENT

This variable contains information about a 6e event that has been configured in the UE. There is one such variable per 6e event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6F_EVENT

This variable contains information about a 6f event that has been configured in the UE. There is one such variable per 6f event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

13.4.27fx TRIGGERED_6G_EVENT

This variable contains information about a 6g event that has been configured in the UE. There is one such variable per 6g event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

[....]

14.6 UE internal measurements

14.6.1 UE internal measurement quantities

For UE internal measurements the following measurement quantities exist:

1. UE transmission (Tx) power, for TDD measured on a timeslot basis.
2. UE received signal strength power (RSSI).
3. UE Rx-Tx time difference.

14.6.2 UE internal measurement reporting events

In the Measurement reporting criteria field in the Measurement Control messages, the UTRAN notifies the UE of which events should trigger a measurement report. UE internal measurement reporting events that can trigger a report are given below. The reporting events are marked with vertical arrows in the figures below. All events can be combined with time-to-trigger. ~~In that case, the measurement report is only sent if the condition for the event has been fulfilled for the time given by the time-to-trigger parameter.~~

NOTE: The reporting events are numbered 6A, 6B, 6C,.. where 6 denotes that the event belongs to the type UE internal measurements.

14.6.2.1 Reporting event 6A: The UE Tx power becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes larger than a predefined threshold. The corresponding report identifies the threshold that was exceeded.~~

When an UE internal measurement configuring event 6a is set up, the UE shall:

1> create a variable TRIGGERED_6A_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is greater than the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6A_EVENT is set to FALSE:

3> set the variable TRIGGERED_6A_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6a";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6A_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is less or equal the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6A_EVENT to FALSE

14.6.2.2 Reporting event 6B: The UE Tx power becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes less than a predefined threshold. The corresponding report identifies the threshold that the UE Tx power went below.~~

When an UE internal measurement configuring event 6b is set up, the UE shall:

1> create a variable TRIGGERED_6B_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is less than the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6B_EVENT is set to FALSE:

3> set the variable TRIGGERED_6B_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6b";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6B_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is greater or equal the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6B_EVENT to FALSE

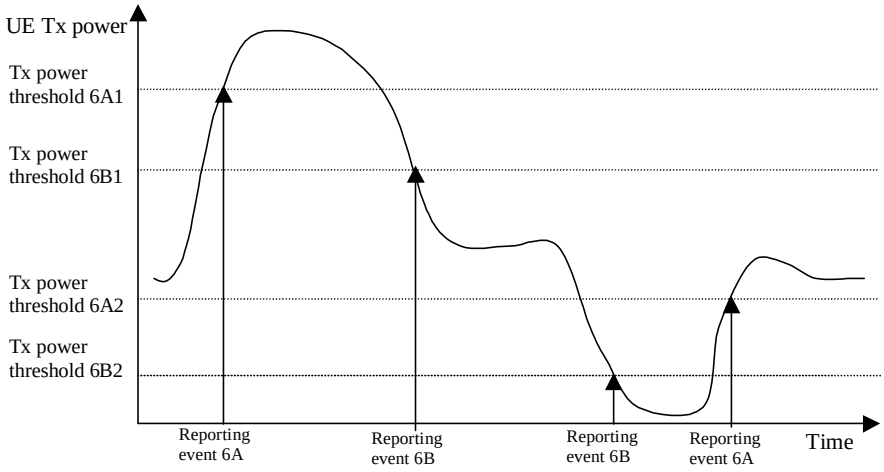

Figure 14.6.2.2-1: Event-triggered measurement reports when the UE Tx power becomes larger or less than absolute thresholds

14.6.2.3 Reporting event 6C: The UE Tx power reaches its minimum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its minimum value, for TDD its minimum value on a single timeslot.~~

When an UE internal measurement configuring event 6c is set up, the UE shall:

1> create a variable TRIGGERED_6C_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power is equal its minimum value (for TDD its minimum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6C_EVENT is set to FALSE:

3> set the variable TRIGGERED_6C_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6c";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6C_EVENT is set to TRUE and if the UE Tx power is greater than its minimum value:

2> set the variable TRIGGERED_6C_EVENT to FALSE

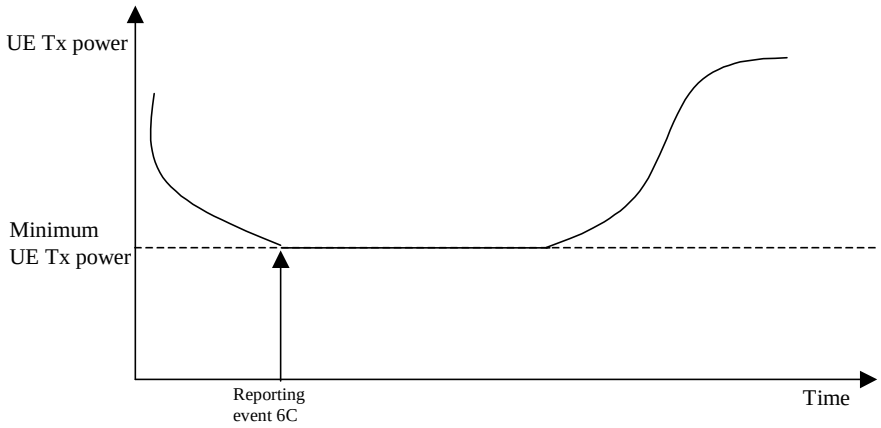

Figure 14.6.2.3-1: Event-triggered measurement report when the UE Tx power reaches its minimum value

14.6.2.4 Reporting event 6D: The UE Tx power reaches its maximum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its maximum value, for TDD its maximum value on a single timeslot.~~

When an UE internal measurement configuring event 6d is set up, the UE shall:

1> create a variable TRIGGERED_6D_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power equals the maximum allowed UE TX power~~its maximum value~~ (for TDD its maximum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6D_EVENT is set to FALSE:

3> set the variable TRIGGERED_6D_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6d";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6D_EVENT is set to TRUE and if the UE Tx power is less than the maximum allowed UE TX power~~its maximum value~~:

2> set the variable TRIGGERED_6D_EVENT to FALSE

Note: The maximum allowed UE TX power is defined in 8.6.6.8

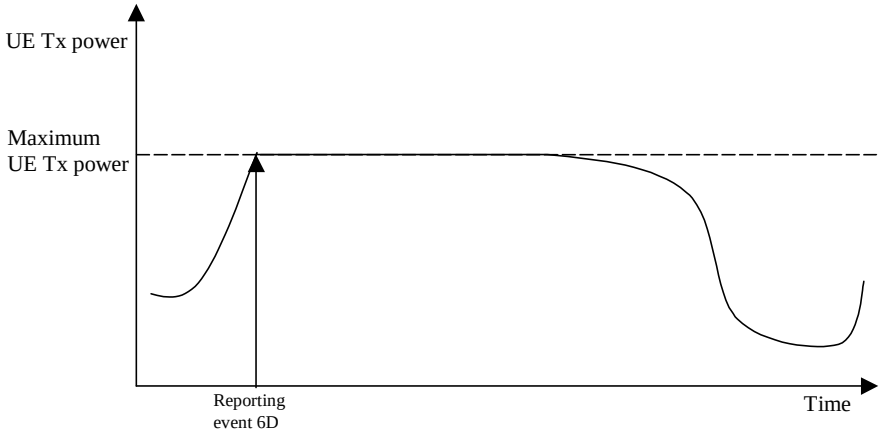

Figure 14.6.2.4-1: Event-triggered report when the UE Tx power reaches its maximum value

14.6.2.5 Reporting event 6E: The UE RSSI reaches the UE's dynamic receiver range

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE RSSI reaches the UE's dynamic receiver range.~~

When an UE internal measurement configuring event 6e is set up, the UE shall:

1> create a variable TRIGGERED_6E_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE RSSI is greater or equal the UE's dynamic receiver range for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6E_EVENT is set to FALSE:

3> set the variable TRIGGERED_6E_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6e";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6E_EVENT is set to TRUE and if the UE RSSI is less than the UE's dynamic receiver range:

2> set the variable TRIGGERED_6E_EVENT to FALSE

14.6.2.6 Reporting event 6F: The UE Rx-Tx time difference for a RL included in the active set becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message whenever the UE Rx-Tx time difference becomes larger than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6f is set up, the UE shall:

1> create a variable TRIGGERED_6F_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is greater than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6F_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6F_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6f";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6F_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is less or equal the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6F_EVENT to FALSE for this RL

14.6.2.7 Reporting event 6G: The UE Rx-Tx time difference for a RL included in the active set becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT whenever the UE Rx-Tx time difference becomes less than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6g is set up, the UE shall:

1> create a variable TRIGGERED_6G_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is less than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6G_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6G_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6g";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6G_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is greater or equal the value in IE "UE Rx-Tx time difference threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6G_EVENT to FALSE for this RL

3GPP TSG-RAN WG2 Meeting #30
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Tdoc ⌘R2-021751

CR-Form-v7

CHANGE REQUEST

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Work item code: ⌘	TEI	***Date:*** ⌘ 18/06/2002
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Consequences if not approved:	⌘	The evaluation of 6x events and reporting is not completely described.

Clauses affected:	⌘	13.4.27.fx, 14.6			
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Other comments:	⌘				

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13.4.27fx TRIGGERED_6B_EVENT

This variable contains information about a 6b event that has been configured in the UE. There is one such variable per 6b event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6C_EVENT

This variable contains information about a 6c event that has been configured in the UE. There is one such variable per 6c event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6D_EVENT

This variable contains information about a 6d event that has been configured in the UE. There is one such variable per 6d event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6E_EVENT

This variable contains information about a 6e event that has been configured in the UE. There is one such variable per 6e event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6F_EVENT

This variable contains information about a 6f event that has been configured in the UE. There is one such variable per 6f event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

13.4.27fx TRIGGERED_6G_EVENT

This variable contains information about a 6g event that has been configured in the UE. There is one such variable per 6g event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

[....]

14.6 UE internal measurements

14.6.1 UE internal measurement quantities

For UE internal measurements the following measurement quantities exist:

1. UE transmission (Tx) power, for TDD measured on a timeslot basis.
2. UE received signal strength power (RSSI).
3. UE Rx-Tx time difference.

14.6.2 UE internal measurement reporting events

In the Measurement reporting criteria field in the Measurement Control messages, the UTRAN notifies the UE of which events should trigger a measurement report. UE internal measurement reporting events that can trigger a report are given below. The reporting events are marked with vertical arrows in the figures below. All events can be combined with time-to-trigger. ~~In that case, the measurement report is only sent if the condition for the event has been fulfilled for the time given by the time-to-trigger parameter.~~

NOTE: The reporting events are numbered 6A, 6B, 6C,.. where 6 denotes that the event belongs to the type UE internal measurements.

14.6.2.1 Reporting event 6A: The UE Tx power becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes larger than a predefined threshold. The corresponding report identifies the threshold that was exceeded.~~

When an UE internal measurement configuring event 6a is set up, the UE shall:

1> create a variable TRIGGERED_6A_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is greater than the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6A_EVENT is set to FALSE:

3> set the variable TRIGGERED_6A_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6a";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6A_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is less or equal the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6A_EVENT to FALSE

14.6.2.2 Reporting event 6B: The UE Tx power becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes less than a predefined threshold. The corresponding report identifies the threshold that the UE Tx power went below.~~

When an UE internal measurement configuring event 6b is set up, the UE shall:

1> create a variable TRIGGERED_6B_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is less than the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6B_EVENT is set to FALSE:

3> set the variable TRIGGERED_6B_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6b";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6B_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is greater or equal the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6B_EVENT to FALSE

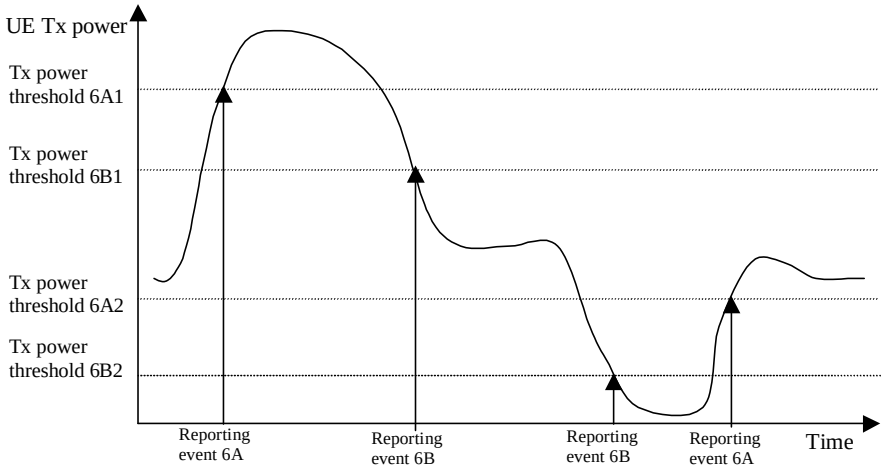

Figure 14.6.2.2-1: Event-triggered measurement reports when the UE Tx power becomes larger or less than absolute thresholds

14.6.2.3 Reporting event 6C: The UE Tx power reaches its minimum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its minimum value, for TDD its minimum value on a single timeslot.~~

When an UE internal measurement configuring event 6c is set up, the UE shall:

1> create a variable TRIGGERED_6C_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power is equal its minimum value (for TDD its minimum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6C_EVENT is set to FALSE:

3> set the variable TRIGGERED_6C_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6c";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6C_EVENT is set to TRUE and if the UE Tx power is greater than its minimum value:

2> set the variable TRIGGERED_6C_EVENT to FALSE

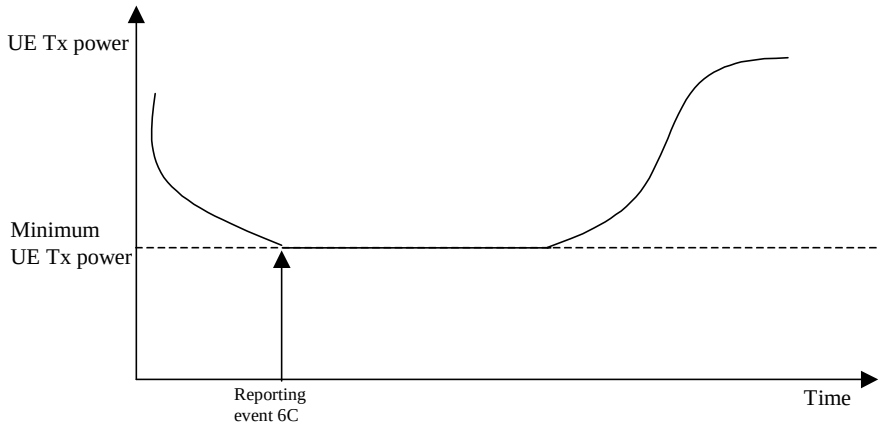

Figure 14.6.2.3-1: Event-triggered measurement report when the UE Tx power reaches its minimum value

14.6.2.4 Reporting event 6D: The UE Tx power reaches its maximum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its maximum value, for TDD its maximum value on a single timeslot.~~

When an UE internal measurement configuring event 6d is set up, the UE shall:

1> create a variable TRIGGERED_6D_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power equals the maximum allowed UE TX power~~its maximum value~~ (for TDD its maximum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6D_EVENT is set to FALSE:

3> set the variable TRIGGERED_6D_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6d";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6D_EVENT is set to TRUE and if the UE Tx power is less than the maximum allowed UE TX power~~its maximum value~~:

2> set the variable TRIGGERED_6D_EVENT to FALSE

Note: The maximum allowed UE TX power is defined in 8.6.6.8

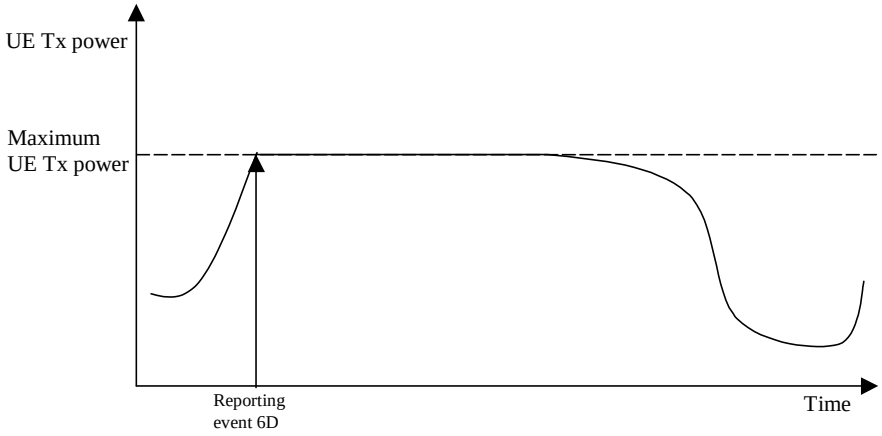

Figure 14.6.2.4-1: Event-triggered report when the UE Tx power reaches its maximum value

14.6.2.5 Reporting event 6E: The UE RSSI reaches the UE's dynamic receiver range

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE RSSI reaches the UE's dynamic receiver range.~~

When an UE internal measurement configuring event 6e is set up, the UE shall:

1> create a variable TRIGGERED_6E_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE RSSI is greater or equal the UE's dynamic receiver range for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6E_EVENT is set to FALSE:

3> set the variable TRIGGERED_6E_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6e";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6E_EVENT is set to TRUE and if the UE RSSI is less than the UE's dynamic receiver range:

2> set the variable TRIGGERED_6E_EVENT to FALSE

14.6.2.6 Reporting event 6F: The UE Rx-Tx time difference for a RL included in the active set becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message whenever the UE Rx-Tx time difference becomes larger than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6f is set up, the UE shall:

1> create a variable TRIGGERED_6F_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is greater than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6F_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6F_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6f";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6F_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is less or equal the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6F_EVENT to FALSE for this RL

14.6.2.7 Reporting event 6G: The UE Rx-Tx time difference for a RL included in the active set becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT whenever the UE Rx-Tx time difference becomes less than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6g is set up, the UE shall:

1> create a variable TRIGGERED_6G_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is less than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6G_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6G_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6g";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6G_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is greater or equal the value in IE "UE Rx-Tx time difference threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6G_EVENT to FALSE for this RL

3GPP TSG-RAN WG2 Meeting #30
Turin, Italy, 24th – 27th June 2002

Tdoc ⌘R2-021752

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1528** ⌘ **rev** **1** ⌘ 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: ⌘	Corrections of UE internal measurement reporting events	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ 18/06/2002
Category: ⌘	**A**	***Release:*** ⌘ Rel-5

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: ⌘

The current description of UE internal measurement reporting events (6a to 6g) does not completely describe the edge triggered behaviour and of 6x events and the reporting functionality:

It is not clearly described the behaviour in presence of a time to trigger, which demands that the trigger condition should be kept for some time.

It is not completely defined when the UE should start to evaluate the event again, once a report was sent.

Summary of change: ⌘

The current description of UE internal measurement reporting events (6a to 6g) is interpreted to have an edge triggered behaviour.

For each event, a variable (TRIGGERED_6x_EVENT:boolean) is introduced to store the trigger state of this event.

The proposed change introduces a trigger condition and a leaving trigger condition for each event which corresponds to the following interpretation of the current description:

The expression "becomes larger/less than a threshold" is changed to:

if the corresponding variable is set to FALSE and if the value is greater/less than this threshold during "time_to_trigger"

with the leaving condition:

if the corresponding variable is set to TRUE and if the value is less/greater or equal this threshold.

The expression "reaches a limit" is changed to:

if the corresponding variable is set to FALSE and if the value is equal this limit during "time_to_trigger"

with the leaving condition:

if the corresponding variable is set to TRUE
and if the value is less/greater this limit.

The proposed event evaluation procedures are based on this trigger conditions and leaving trigger conditions:

After the trigger condition is fulfilled, a report is sent and the corresponding variable is set to TRUE. As long as this variable stays set to TRUE, no more reports are sent. After the leaving trigger condition is fulfilled the variable is set to FALSE again.

For events 6f and 6g this is done per RL.

Isolated impact analysis:

Affected Functionality: UE internal measurements reporting events

Correction to a function where specification was ambiguous/not sufficiently explicit/missing procedural text or rules/containing some contradiction. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.

If the UE does not implement this CR:

The edge triggered behaviour might not be implemented correctly and there may be more or less reports than expected by UTRAN.

If the UTRAN does not implement this CR:

The edge triggered behaviour might not be assumed correctly and there may be more or less reports than expected.

34.108:

The current specification contains no references to the concerned functions.

34.123

The current state of the specification reflects the behaviour according to the proposed description.

Consequences if not approved:	⌘	The evaluation of 6x events and reporting is not completely described.

Clauses affected:	⌘	13.4.27.fx, 14.6			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
		N	Test specifications		
		N	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.

13.4.27fx TRIGGERED_6A_EVENT

This variable contains information about a 6a event that has been configured in the UE. There is one such variable per 6a event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6B_EVENT

This variable contains information about a 6b event that has been configured in the UE. There is one such variable per 6b event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6C_EVENT

This variable contains information about a 6c event that has been configured in the UE. There is one such variable per 6c event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6D_EVENT

This variable contains information about a 6d event that has been configured in the UE. There is one such variable per 6d event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6E_EVENT

This variable contains information about a 6e event that has been configured in the UE. There is one such variable per 6e event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered	OP		Boolean	

13.4.27fx TRIGGERED_6F_EVENT

This variable contains information about a 6f event that has been configured in the UE. There is one such variable per 6f event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

13.4.27fx TRIGGERED_6G_EVENT

This variable contains information about a 6g event that has been configured in the UE. There is one such variable per 6g event configured in the UE.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Event triggered_RL	OP	<maxRL>	Boolean	

[....]

14.6 UE internal measurements

14.6.1 UE internal measurement quantities

For UE internal measurements the following measurement quantities exist:

1. UE transmission (Tx) power, for TDD measured on a timeslot basis.
2. UE received signal strength power (RSSI).
3. UE Rx-Tx time difference.

14.6.2 UE internal measurement reporting events

In the Measurement reporting criteria field in the Measurement Control messages, the UTRAN notifies the UE of which events should trigger a measurement report. UE internal measurement reporting events that can trigger a report are given below. The reporting events are marked with vertical arrows in the figures below. All events can be combined with time-to-trigger. ~~In that case, the measurement report is only sent if the condition for the event has been fulfilled for the time given by the time-to-trigger parameter.~~

NOTE: The reporting events are numbered 6A, 6B, 6C,.. where 6 denotes that the event belongs to the type UE internal measurements.

14.6.2.1 Reporting event 6A: The UE Tx power becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes larger than a predefined threshold. The corresponding report identifies the threshold that was exceeded.~~

When an UE internal measurement configuring event 6a is set up, the UE shall:

1> create a variable TRIGGERED_6A_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is greater than the value in IE “UE Transmitted Power Tx power threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6A_EVENT is set to FALSE:

3> set the variable TRIGGERED_6A_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6a";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6A_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is less or equal the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6A_EVENT to FALSE

14.6.2.2 Reporting event 6B: The UE Tx power becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE transmission power (for TDD within a single TS) becomes less than a predefined threshold. The corresponding report identifies the threshold that the UE Tx power went below.~~

When an UE internal measurement configuring event 6b is set up, the UE shall:

1> create a variable TRIGGERED_6B_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power (for TDD within a single TS) is less than the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6B_EVENT is set to FALSE:

3> set the variable TRIGGERED_6B_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6b";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6B_EVENT is set to TRUE and if the UE Tx power (for TDD within a single TS) is greater or equal the value in IE "UE Transmitted Power Tx power threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6B_EVENT to FALSE

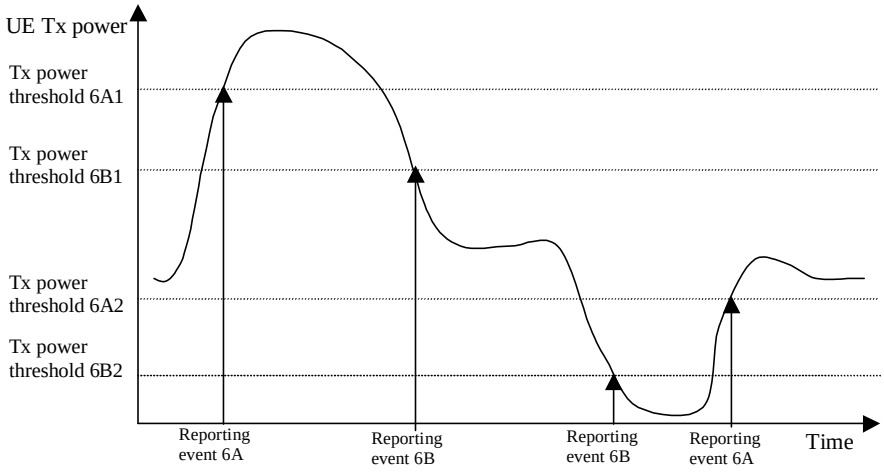

Figure 14.6.2.2-1: Event-triggered measurement reports when the UE Tx power becomes larger or less than absolute thresholds

14.6.2.3 Reporting event 6C: The UE Tx power reaches its minimum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its minimum value, for TDD its minimum value on a single timeslot.~~

When an UE internal measurement configuring event 6c is set up, the UE shall:

1> create a variable TRIGGERED_6C_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power is equal its minimum value (for TDD its minimum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6C_EVENT is set to FALSE:

3> set the variable TRIGGERED_6C_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6c";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6C_EVENT is set to TRUE and if the UE Tx power is greater than its minimum value:

2> set the variable TRIGGERED_6C_EVENT to FALSE

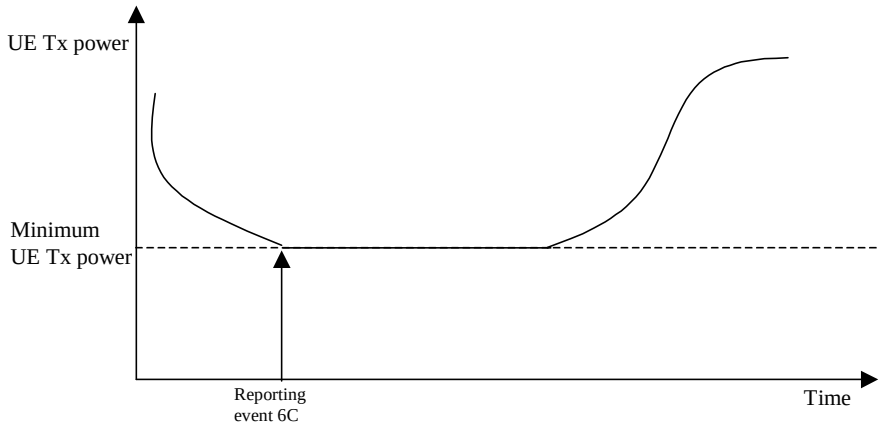

Figure 14.6.2.3-1: Event-triggered measurement report when the UE Tx power reaches its minimum value

14.6.2.4 Reporting event 6D: The UE Tx power reaches its maximum value

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE Tx power reaches its maximum value, for TDD its maximum value on a single timeslot.~~

When an UE internal measurement configuring event 6d is set up, the UE shall:

1> create a variable TRIGGERED_6D_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Tx power equals the maximum allowed UE TX power~~its maximum value~~ (for TDD its maximum value on a single TS) for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6D_EVENT is set to FALSE:

3> set the variable TRIGGERED_6D_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6d";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6D_EVENT is set to TRUE and if the UE Tx power is less than the maximum allowed UE TX power~~its maximum value~~:

2> set the variable TRIGGERED_6D_EVENT to FALSE

Note: The maximum allowed UE TX power is defined in 8.6.6.8

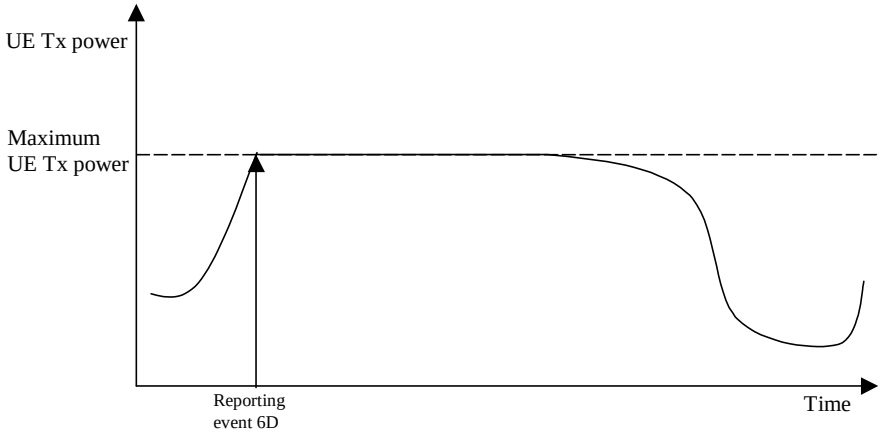

Figure 14.6.2.4-1: Event-triggered report when the UE Tx power reaches its maximum value

14.6.2.5 Reporting event 6E: The UE RSSI reaches the UE's dynamic receiver range

~~When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report whenever the UE RSSI reaches the UE's dynamic receiver range.~~

When an UE internal measurement configuring event 6e is set up, the UE shall:

1> create a variable TRIGGERED_6E_EVENT related to that measurement, which shall initially be set to FALSE;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE RSSI is greater or equal the UE's dynamic receiver range for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6E_EVENT is set to FALSE:

3> set the variable TRIGGERED_6E_EVENT to TRUE;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6e";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6E_EVENT is set to TRUE and if the UE RSSI is less than the UE's dynamic receiver range:

2> set the variable TRIGGERED_6E_EVENT to FALSE

14.6.2.6 Reporting event 6F: The UE Rx-Tx time difference for a RL included in the active set becomes larger than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT message whenever the UE Rx-Tx time difference becomes larger than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6f is set up, the UE shall:

1> create a variable TRIGGERED_6F_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is greater than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6F_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6F_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6f";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6F_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is less or equal the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6F_EVENT to FALSE for this RL

14.6.2.7 Reporting event 6G: The UE Rx-Tx time difference for a RL included in the active set becomes less than an absolute threshold

~~When this event is ordered by UTRAN in a MEASUREMENT CONTROL message, the UE shall send a MEASUREMENT REPORT whenever the UE Rx-Tx time difference becomes less than the threshold defined by the IE "UE Rx-Tx time difference threshold".~~

When an UE internal measurement configuring event 6g is set up, the UE shall:

1> create a variable TRIGGERED_6G_EVENT related to that measurement, which shall initially be set to FALSE for each RL;

1> delete this variable when the measurement is released.

When this event is ordered by UTRAN in a measurement control message, the UE shall:

1> if the UE Rx-Tx time difference for a RL included in the active set is less than the value in IE “UE Rx-Tx time difference threshold” stored for this event in the variable MEASUREMENT_IDENTITY for a time period indicated by the IE "time_to_trigger":

2> if the variable TRIGGERED_6G_EVENT is set to FALSE for this RL:

3> set the variable TRIGGERED_6G_EVENT to TRUE for this RL;

3> send a measurement report with IEs set as below:

4> set in "UE internal measurement event results": "UE internal event identity" to "6g";

4> set the IE "measured results" and the IE "additional measured results" according to 8.4.2.

1> if the variable TRIGGERED_6G_EVENT is set to TRUE for a RL and if the UE RX-Tx time difference for ~~a~~this RL included in the active set is greater or equal the value in IE "UE Rx-Tx time difference threshold" stored for this event in the variable MEASUREMENT_IDENTITY:

2> set the variable TRIGGERED_6G_EVENT to FALSE for this RL

3GPP TSG-RAN WG2 Meeting #31
Arlanda, Sweden, August 19-23, 2002

Tdoc ⌘R2-022226

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1529** ⌘ **rev** **2** ⌘ 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:	⌘	UE behaviour upon reception of reconfiguration
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/08/2002
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:	⌘	The behaviour of a UE in CELL_FACH state is currently not sufficiently specified if the value of the IE "Activation time" in a received message is other than the default value "Now". For a message received in CELL_FACH state, "Now" is the only sensible value for FDD. InTDD, Actiation time relative to the CFN associated with the cell for which the message was received in is necessary for proper operation.
Summary of change:	⌘	It is indicated in a note, that the UE behaviour is unspecified if the UE is in CELL_FACH state and the value of the IE "Activation time" is different from "Now" in FDD. In TDD the value of Activation Time in the received message is relative to the CFN associated with the cell from which the message was received. **Impact analysis:** The UE implementation is not affected. Also, UTRAN implementation is not directly affected, but UTRAN implementations causing unspecified UE behaviour are indicated. In TDD there is no implementation effect since the need to maintain CFN relative to Activation Time specified in RRC procedures in Cell FACH is already a known requirement.
Consequences if not approved:	⌘	Unpredictable behaviour of a UE that receives a message in CELL_FACH state when the IE "Activation Time" in the message is different from "Now".

Clauses affected:	⌘	8.6.3.1

[Y] [N]

Other specs affected:	⌘		X	Other core specifications	⌘ TS 34.123
		X		Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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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.

8.6.3 UE information elements

8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed:

2> select that frame boundary as the activation time T.

1> else:

2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T.

1> at the activation time T:

2> for a physical channel reconfiguration caused by the received message:

3> release the physical channel configuration, which was present before T;

3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.

2> for actions, other than a physical channel reconfiguration, caused by the received message:

3> perform the actions for the information elements in the received message as specified elsewhere.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;

1> at the activation time T:

2> perform the actions for the information elements in the received message as specified elsewhere.

NOTE: In FDD, if the UE was in CELL_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in CELL_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

3GPP TSG-RAN WG2 Meeting #31
Arlanda, Sweden, August 19-23, 2002

Tdoc ⌘R2-022227

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1530** ⌘ **rev** **2** ⌘ 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 ☒ Radio Access Network ☒ Core Network ☐

Title:	⌘	UE behaviour upon reception of reconfiguration
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/08/2002
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)*
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:	⌘	The behaviour of a UE in CELL_FACH state is currently not sufficiently specified if the value of the IE "Activation time" in a received message is other than the default value "Now". For a message received in CELL_FACH state, "Now" is the only sensible value for FDD. InTDD, Actiation time relative to the CFN associated with the cell for which the message was received in is necessary for proper operation.
Summary of change:	⌘	It is indicated in a note, that the UE behaviour is unspecified if the UE is in CELL_FACH state and the value of the IE "Activation time" is different from "Now" in FDD. In TDD the value of Activation Time in the received message is relative to the CFN associated with the cell from which the message was received. **Impact analysis:** The UE implementation is not affected. Also, UTRAN implementation is not directly affected, but UTRAN implementations causing unspecified UE behaviour are indicated. In TDD there is no implementation effect since the need to maintain CFN relative to Activation Time specified in RRC procedures in Cell FACH is already a known requirement.
Consequences if not approved:	⌘	Unpredictable behaviour of a UE that receives a message in CELL_FACH state when the IE "Activation Time" in the message is different from "Now".

Clauses affected:	⌘	8.6.3.1

Y N

Other specs affected:	⌘		X	Other core specifications	⌘ TS 34.123
		X		Test specifications	
			X	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.

8.6.3 UE information elements

8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed:

2> select that frame boundary as the activation time T.

1> else:

2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T.

1> at the activation time T:

2> for a physical channel reconfiguration caused by the received message:

3> release the physical channel configuration, which was present before T;

3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.

2> for actions, other than a physical channel reconfiguration, caused by the received message:

3> perform the actions for the information elements in the received message as specified elsewhere.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;

1> at the activation time T:

2> perform the actions for the information elements in the received message as specified elsewhere.

NOTE: In FDD, if the UE was in CELL_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in CELL_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

3GPP TSG-RAN WG2 Meeting #31
Arlanda, Sweden, August 19-23, 2002

Tdoc ⌘R2-022228

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1531** ⌘ **rev** **2** ⌘ 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:	⌘	UE behaviour upon reception of reconfiguration
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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:	⌘	The behaviour of a UE in CELL_FACH state is currently not sufficiently specified if the value of the IE "Activation time" in a received message is other than the default value "Now". For a message received in CELL_FACH state, "Now" is the only sensible value for FDD. InTDD, Actiation time relative to the CFN associated with the cell for which the message was received in is necessary for proper operation.
Summary of change:	⌘	It is indicated in a note, that the UE behaviour is unspecified if the UE is in CELL_FACH state and the value of the IE "Activation time" is different from "Now" in FDD. In TDD the value of Activation Time in the received message is relative to the CFN associated with the cell from which the message was received. **Impact analysis:** The UE implementation is not affected. Also, UTRAN implementation is not directly affected, but UTRAN implementations causing unspecified UE behaviour are indicated. In TDD there is no implementation effect since the need to maintain CFN relative to Activation Time specified in RRC procedures in Cell FACH is already a known requirement.
Consequences if not approved:	⌘	Unpredictable behaviour of a UE that receives a message in CELL_FACH state when the IE "Activation Time" in the message is different from "Now".

Clauses affected:	⌘	8.6.3.1

[Y] [N]

Other specs affected:	⌘		X	Other core specifications	⌘ TS 34.123
		X		Test specifications	
			X	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.

8.6.3 UE information elements

8.6.3.1 Activation time

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is other than the default value "Now", the UE shall:

1> if the frame boundary immediately before the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time" is at the TTI boundary common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed:

2> select that frame boundary as the activation time T.

1> else:

2> select the next TTI boundary, which is common to all the transport channels that are multiplexed onto the same CCTrCh including any transport channel which is added, reconfigured or has been removed, after the frame with the CFN (Connection Frame Number) value indicated by the IE "Activation Time", as the activation time T.

1> at the activation time T:

2> for a physical channel reconfiguration other than an HS-DSCH related reconfiguration, caused by the received message:

3> release the physical channel configuration, which was present before T;

3> initiate the establishment of the physical channel configuration as specified for the physical channel information elements in the received message as specified elsewhere.

2> for an HS-DSCH related reconfiguration caused by the received message:

3> select the HS-SCCH subframe boundary immediately before the first HS-SCCH subframe, which entirely falls within the 10 ms frame next after T;

3> start using, at that HS-SCCH subframe boundary, the new HS-DSCH configuration in the received message, replacing any old HS-DSCH configuration.

2> for actions, other than a physical channel reconfiguration, caused by the received message:

3> perform the actions for the information elements in the received message as specified elsewhere.

NOTE: An "HS-DSCH related reconfiguration" includes, in particular, reconfigurations that need to be time-aligned with the 2ms subframe of the HS-SCCH, HS-PDSCH and/or HS-DPCCH. For example, start and stop of HS-SCCH reception and serving HS-DSCH cell change.

If the UE receives a message in which presence is needed for the IE "Activation time", and the value is the default value "Now", the UE shall:

1> choose an activation time T as soon as possible after the reception of the message, respecting the performance requirements in subclause 13.5;

1> at the activation time T:

2> perform the actions for the information elements in the received message as specified elsewhere.

NOTE: In FDD, if the UE was in CELL_FACH state upon reception of the message, regardless of the state the UE enters after reception of the message, and the value of the IE "Activation time" in the received message is different from "Now", the UE behaviour is unspecified. In TDD, if the UE was in CELL_FACH state upon reception of the message, the value of the IE "Activation time" in the received message is relative to the CFN associated with the cell from which the message was received.

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, June 24-28, 2002

***Tdoc*R2-021719**

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1532** ⌘ **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: ⌘	Application of integrity keys in case of a pending CN domain switch during a SRNS relocation	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ June 14, 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 RAN#16 a change request to 25.331 was approved which provided for the correct application of integrity keys on a SRNS relocation following a pending securit procedure an a signalling radio bearer. The text currently states: "consider the new integrity protection configuration to include any ***new*** keys that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed"

The word "new" can be construed to imply that only in case the previous security procedure activated new keys (for the same domain) shall the UE apply them immediately after the SRNS relocation procedure. The UE behavior, post SRNS relocation, in case the previous security procedure was caused due to the reception of a SECURITY MODE COMMAND with a domain change (i.e. SRBs are now to be integrity protected by the keys from latest configured CN domain) could be interpreted as missing. The relocation container from the source to the target does not include the pending activation times and merely conveys the LATEST_CONFIGURED_CN_DOMAIN to the target. Thus the target RNC is unaware of any pending activation times and this would cause the target to apply the security keys of the wrong domain to the signalling messages.

It is also unclear in the specification how the UE sets the HFN value after relocation in the case of pending security configuration due to change in LATEST_CONFIGURED_CN_DOMAIN triggerd by a previous SECURITY MODE COMMAND.

Appropriate UTRAN setting of the activation times for the first security procedure

	may not solve the problem since the UTRAN cannot predict the UE's need to transmit signalling messages on SRB 1, 3 and 4. For similar reasons this problem cannot be solved by requiring the UTRAN to not initiate the SRNS relocation procedure until the pending activation times have elapsed since the UE actions of transmission of uplink signalling messages cannot be predicted. Clarification of UE behavior is therefore seen necessary. **Frequency of problem**: The frequency of this problem is linked to the frequency of the change of the controlling (from a SRB IP and ciphering) CN domain i.e. establishment of Iu connection, and the type of potential triggers of SRNS relocation at the UTRAN. Also linked is the state of the UE and how this influences the triggering of a SRNS relocation at the UTRAN.
Summary of change: ⌘	It is stated that the UE shall apply the keys corresponding to the LATEST_CONFIGURED_CN_DOMAIN following completion of the SRNS relocation procedure in case there is a pending application key due to a previous security procedure. Similar modifications are made in 8.6.3.4 for the case of ciphering. In case of a pending security configuration with change on the LATEST_CONFIGURED_CN_DOMAIN it is clarified that the UE shall set the most significant bits of the HFN to the START value of the LATEST_CONFIGURED_CN_DOMAIN. **Impact Analysis:** **Affected Functionality:** Integrity Protection post SRNS Relocation Correction to a function where specification was ambiguous/not sufficiently explicit/missing procedural text or rules/containing some contradiction. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved: ⌘	UTRAN would not be able to perform SRNS relocation if the activation times for a security procedure for a signalling radio bearer have not elapsed or signalling messages will be lost in case of SRNS relocation.

Clauses affected:	⌘	8.6.3.4, 8.6.3.5			
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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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.

8.6.3.4 Ciphering mode info

The IE "Ciphering mode info" defines the new ciphering configuration. At any given time, the UE needs to store at most two different ciphering configurations (keyset and algorithm) per CN domain at any given time in total for all radio bearers and three configurations in total for all signalling radio bearers.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

1> ignore this second attempt to change the ciphering configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

1> if the IE "Status" in the variable CIPHERING STATUS has the value "Not started", and this IE was included in a message that is not the message SECURITY MODE COMMAND; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established RLC-AM and RLC-UM radio bearers included in the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and the IE "Ciphering activation time for DPCH" is not included in the message, and there exist radio bearers using RLC-TM according to the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS":

2> ignore this attempt to change the ciphering configuration;

2> set the variable INVALID_CONFIGURATION to TRUE;

2> perform the actions as specified in subclause 8.1.12.4c.

1> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;

1> set the IE "Status" in the variable CIPHERING_STATUS of the CN domains for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" to "Started";

1> apply the new ciphering configuration in the lower layers for all RBs that belong to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

2> using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration;

2> for each radio bearer that belongs to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

3> using the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one as the value of BEARER [40] in the ciphering algorithm.

1> apply the new ciphering configuration as follows:

2> consider an activation time in downlink to be pending:

3> for UM-RLC until an UMD PDU with sequence number equal to or larger than activation time –1 has been received;

3> for AM-RLC until all AMD PDUs with sequence numbers up to and including activation time –1 have been received;

3> for TM-RLC until the CFN indicated in the activation time has been reached.

2> if there are pending activation times in downlink set for ciphering by a previous procedure changing the ciphering configuration for a radio bearer or signalling radio bearer:

3> apply the ciphering configuration included in the current message at this pending activation time;

~~3> consider the ciphering keys that were to be applied following a previous procedure changing the ciphering configuration and which have not yet been applied due to the activation time not having elapsed for a given radio bearer, as part of the ciphering configuration received in the current message.~~

2> if the ciphering configuration is pending for a radio bearer or signalling radio bearer due to a previously received SECURITY MODE COMMAND and the current received message includes the IE "DL Counter Synch Info" or the current received message is a RADIO BEARER RECONFIGURATION message and includes the IE "New U-RNTI":

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new ciphering configuration to include the received new keys and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12;

3> else

4> consider the new ciphering configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message;

3> apply the new ciphering configuration in uplink and downlink immediately following RLC re-establishment.

2> if the IE "Ciphering activation time for DPCH" is present in the IE "Ciphering mode info" and the UE was in CELL_DCH state prior to this procedure:

3> for radio bearers using RLC-TM:

4> apply the old ciphering configuration for CFN less than the number indicated in the IE "Ciphering activation time for DPCH";

4> apply the new ciphering configuration for CFN greater than or equal to the number indicated in IE "Ciphering activation time for DPCH".

2> if the IE "Radio bearer downlink ciphering activation time info" is present:

3> apply the following procedure for each radio bearer and signalling radio bearers using RLC-AM or RLC-UM indicated by the IE "RB identity":

4> suspend uplink transmission on the radio bearer or the signalling radio bearer (except for the SRB where the response message is transmitted) according to the following:

5> do not transmit RLC PDUs with sequence number greater than or equal to the uplink activation time, where the uplink activation time is selected according to the rules below.

4> select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:

5> for each radio bearer and signalling radio bearer that has no pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest security configuration.

5> for each radio bearer and signalling radio bearer that has a pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set the same value as the pending ciphering activation time.

5> consider this activation time in uplink to be elapsed when the selected activation time (as above) is equal to the "RLC send sequence number";

4> store the selected "RLC send sequence number" for that radio bearer in the entry for the radio bearer in the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

4> switch to the new ciphering configuration according to the following:

5> use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> for a radio bearer using RLC-AM, when the RLC sequence number indicated in the IE "Radio bearer downlink ciphering activation time info" falls below the RLC receiving window and the RLC sequence number indicated in the IE "Radio bearer uplink ciphering activation time info" falls below the RLC transmission window, the UE may release the old ciphering configuration for that radio bearer;

5> if an RLC reset or re-establishment occurs before the activation time for the new ciphering configuration has been reached, ignore the activation time and apply the new ciphering configuration immediately after the RLC reset or RLC re-establishment.

If the IE "Ciphering mode info" is not present, the UE shall:

1> not change the ciphering configuration.

8.6.3.5 Integrity protection mode info

The IE "Integrity protection mode info" defines the new integrity protection configuration. At any given time, the UE needs to store at most three different integrity protection configurations (keysets) in total for all signalling radio bearers for all CN domains.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE, the UE shall:

1> ignore this second attempt to change the integrity protection configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall:

1> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to TRUE;

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and this IE was included in the message SECURITY MODE COMMAND:

2> initialise the information for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO according to the following:

3> set the IE "Uplink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO to zero;

3> do not set the IE "Downlink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO;

3> set the variable INTEGRITY_PROTECTION_ACTIVATION_INFO to zero for each signalling radio bearer in the IE "ESTABLISHED_RABS".

2> set the IE "Status" in the variable INTEGRITY_PROTECTION_INFO to the value "Started";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RB2 at the next received RRC message;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RB2 from and including the received SECURITY MODE COMMAND message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RB2 at the uplink activation time included in the IE "Uplink integrity protection activation info".

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was not included SECURITY MODE COMMAND:

NOTE: This case is used in SRNS relocation

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> let RBm be the signalling radio bearer where the reconfiguration message was received and let RBn be the signalling radio bearer where the response message is transmitted;

2> prohibit transmission of RRC messages on all signalling radio bearers in the IE "ESTABLISHED_RABS" except on RB0 and the radio bearer where the response message is transmitted;

~~2> consider the new integrity protection configuration to include, as appropriate, any new keys or keys associated with the LATEST_CONFIGURED_CN_DOMAIN, that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed;~~

2> if for a signalling radio bearer, a security configuration triggered by a previous SECURITY MODE COMMAND is pending, due to the activation time for the signalling radio bearer not having elapsed:

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new integrity protectioon configuration to include the received new keys and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12.

3> else

4> consider the new Integrity Protection configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN associated with the previously received SECURITY MODE COMMAND and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message.

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RBm at the next received RRC message disregarding any pending activation times for the corresponding signalling radio bearer;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RBm from and including the received configuration message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RBn from and including the transmitted response message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RBn from the first message onwards.

NOTE: The UTRAN should ignore the information included in the IE "Uplink integrity protection info".

1> if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was included in SECURITY MODE COMMAND:

2> store the (oldest currently used) integrity protection configuration until activation times have elapsed for the new integrity protection configuration to be applied on all signalling radio bearers;

2> if there are pending activation times set for integrity protection by a previous procedure changing the integrity protection configuration:

3> apply the integrity protection configuration at this pending activation time as indicated in this procedure.

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1;

3> if present, use the algorithm indicated by the IE "Integrity protection algorithm" (UIA [40]);

2> set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:

3> for each established signalling radio bearer, stored in the variable ESTABLISHED_RABS:

4> select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:

5> for each signalling radio bearer that has no pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration.

5> for signalling radio bearer that has a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set the same value as the pending activation time for integrity protection;

5> consider this (pending) activation time to be elapsed when the selected activation time (as above) is equal to the next RRC sequence number to be used, which means that the last RRC message using the old integrity protection configuration has been submitted to lower layers.

4> for signalling radio bearer RB0:

5> set the value of the included RRC sequence number to greater than or equal to the current value of the RRC sequence number for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO, plus the value of the constant N302 plus one.

4> prohibit the transmission of RRC messages on all signalling radio bearers, except for RB2, with RRC SN greater than or equal to the value in the "RRC message sequence number list" for the signalling radio bearer in the IE "Uplink integrity protection activation info" of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration;

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info";

NOTE: For signalling radio bearers that have a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration, UTRAN should set this value in IE "Downlink integrity protection activation info".

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration.

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode command info" was not included in the message SECURITY MODE COMMAND; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode info" was included in the message SECURITY MODE COMMAND, and the IE "Integrity protection algorithm" is not included; or

If the IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not Started"; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode command info" was included in the message SECURITY MODE COMMAND; or

If there does not exist exactly one integrity protection activation time in the IE "Downlink integrity protection activation info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS"; or

If IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode info" was not included in the message SECURITY MODE COMMAND:

the UE shall:

1> ignore this attempt to change the integrity protection configuration; and

1> set the variable INVALID_CONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is not present, the UE shall:

1> not change the integrity protection configuration.

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, June 24-28, 2002

TdocR2-021638

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1533** ⌘ **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 ☒ Radio Access Network ☒ Core Network ☐

Title: ⌘	Application of integrity keys in case of a pending CN domain switch during a SRNS relocation	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ June 14, 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)*
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 RAN#16 a change request to 25.331 was approved which provided for the correct application of integrity keys on a SRNS relocation following a pending securit procedure an a signalling radio bearer. The text currently states: "consider the new integrity protection configuration to include any ***new*** keys that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed"

The word "new" can be construed to imply that only in case the previous security procedure activated new keys (for the same domain) shall the UE apply them immediately after the SRNS relocation procedure. The UE behavior, post SRNS relocation, in case the previous security procedure was caused due to the reception of a SECURITY MODE COMMAND with a domain change (i.e. SRBs are now to be integrity protected by the keys from latest configured CN domain) could be interpreted as missing. The relocation container from the source to the target does not include the pending activation times and merely conveys the LATEST_CONFIGURED_CN_DOMAIN to the target. Thus the target RNC is unaware of any pending activation times and this would cause the target to apply the security keys of the wrong domain to the signalling messages.

It is also unclear in the specification how the UE sets the HFN value after relocation in the case of pending security configuration due to change in LATEST_CONFIGURED_CN_DOMAIN triggerd by a previous SECURITY MODE COMMAND.

Appropriate UTRAN setting of the activation times for the first security procedure

	may not solve the problem since the UTRAN cannot predict the UE's need to transmit signalling messages on SRB 1, 3 and 4. For similar reasons this problem cannot be solved by requiring the UTRAN to not initiate the SRNS relocation procedure until the pending activation times have elapsed since the UE actions of transmission of uplink signalling messages cannot be predicted. Clarification of UE behavior is therefore seen necessary. **Frequency of problem**: The frequency of this problem is linked to the frequency of the change of the controlling (from a SRB IP and ciphering) CN domain i.e. establishment of Iu connection, and the type of potential triggers of SRNS relocation at the UTRAN. Also linked is the state of the UE and how this influences the triggering of a SRNS relocation at the UTRAN.
Summary of change: ⌘	It is stated that the UE shall apply the keys corresponding to the LATEST_CONFIGURED_CN_DOMAIN following completion of the SRNS relocation procedure in case there is a pending application key due to a previous security procedure. Similar modifications are made in 8.6.3.4 for the case of ciphering. In case of a pending security configuration with change on the LATEST_CONFIGURED_CN_DOMAIN it is clarified that the UE shall set the most significant bits of the HFN to the START value of the LATEST_CONFIGURED_CN_DOMAIN. **Impact Analysis:** **Affected Functionality:** Integrity Protection post SRNS Relocation Correction to a function where specification was ambiguous/not sufficiently explicit/missing procedural text or rules/containing some contradiction. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved: ⌘	UTRAN would not be able to perform SRNS relocation if the activation times for a security procedure for a signalling radio bearer have not elapsed or signalling messages will be lost in case of SRNS relocation.

Clauses affected:	⌘	8.6.3.4, 8.6.3.5			
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:

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.

8.6.3.4 Ciphering mode info

The IE "Ciphering mode info" defines the new ciphering configuration. At any given time, the UE needs to store at most two different ciphering configurations (keyset and algorithm) per CN domain at any given time in total for all radio bearers and three configurations in total for all signalling radio bearers.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

1> ignore this second attempt to change the ciphering configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

1> if the IE "Status" in the variable CIPHERING STATUS has the value "Not started", and this IE was included in a message that is not the message SECURITY MODE COMMAND; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established RLC-AM and RLC-UM radio bearers included in the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and the IE "Ciphering activation time for DPCH" is not included in the message, and there exist radio bearers using RLC-TM according to the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS":

2> ignore this attempt to change the ciphering configuration;

2> set the variable INVALID_CONFIGURATION to TRUE;

2> perform the actions as specified in subclause 8.1.12.4c.

1> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;

1> set the IE "Status" in the variable CIPHERING_STATUS of the CN domains for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" to "Started";

1> apply the new ciphering configuration in the lower layers for all RBs that belong to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

2> using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration;

2> for each radio bearer that belongs to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

3> using the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one as the value of BEARER [40] in the ciphering algorithm.

1> apply the new ciphering configuration as follows:

2> consider an activation time in downlink to be pending:

3> for UM-RLC until an UMD PDU with sequence number equal to or larger than activation time –1 has been received;

3> for AM-RLC until all AMD PDUs with sequence numbers up to and including activation time –1 have been received;

3> for TM-RLC until the CFN indicated in the activation time has been reached.

2> if there are pending activation times in downlink set for ciphering by a previous procedure changing the ciphering configuration for a radio bearer or signalling radio bearer:

3> apply the ciphering configuration included in the current message at this pending activation time;

~~3> consider the ciphering keys that were to be applied following a previous procedure changing the ciphering configuration and which have not yet been applied due to the activation time not having elapsed for a given radio bearer, as part of the ciphering configuration received in the current message.~~

2> if the ciphering configuration is pending for a radio bearer or signalling radio bearer due to a previously received SECURITY MODE COMMAND and the current received message includes the IE "DL Counter Synch Info" or the current received message is a RADIO BEARER RECONFIGURATION message and includes the IE "New U-RNTI":

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new ciphering configuration to include the received new keys and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12;

3> else

4> consider the new ciphering configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message;

3> apply the new ciphering configuration in uplink and downlink immediately following RLC re-establishment.

2> if the IE "Ciphering activation time for DPCH" is present in the IE "Ciphering mode info" and the UE was in CELL_DCH state prior to this procedure:

3> for radio bearers using RLC-TM:

4> apply the old ciphering configuration for CFN less than the number indicated in the IE "Ciphering activation time for DPCH";

4> apply the new ciphering configuration for CFN greater than or equal to the number indicated in IE "Ciphering activation time for DPCH".

2> if the IE "Radio bearer downlink ciphering activation time info" is present:

3> apply the following procedure for each radio bearer and signalling radio bearers using RLC-AM or RLC-UM indicated by the IE "RB identity":

4> suspend uplink transmission on the radio bearer or the signalling radio bearer (except for the SRB where the response message is transmitted) according to the following:

5> do not transmit RLC PDUs with sequence number greater than or equal to the uplink activation time, where the uplink activation time is selected according to the rules below.

4> select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:

5> for each radio bearer and signalling radio bearer that has no pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest security configuration.

5> for each radio bearer and signalling radio bearer that has a pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set the same value as the pending ciphering activation time.

5> consider this activation time in uplink to be elapsed when the selected activation time (as above) is equal to the "RLC send sequence number";

4> store the selected "RLC send sequence number" for that radio bearer in the entry for the radio bearer in the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

4> switch to the new ciphering configuration according to the following:

5> use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> for a radio bearer using RLC-AM, when the RLC sequence number indicated in the IE "Radio bearer downlink ciphering activation time info" falls below the RLC receiving window and the RLC sequence number indicated in the IE "Radio bearer uplink ciphering activation time info" falls below the RLC transmission window, the UE may release the old ciphering configuration for that radio bearer;

5> if an RLC reset or re-establishment occurs before the activation time for the new ciphering configuration has been reached, ignore the activation time and apply the new ciphering configuration immediately after the RLC reset or RLC re-establishment.

If the IE "Ciphering mode info" is not present, the UE shall:

1> not change the ciphering configuration.

8.6.3.5 Integrity protection mode info

The IE "Integrity protection mode info" defines the new integrity protection configuration. At any given time, the UE needs to store at most three different integrity protection configurations (keysets) in total for all signalling radio bearers for all CN domains.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE, the UE shall:

1> ignore this second attempt to change the integrity protection configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall:

1> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to TRUE;

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and this IE was included in the message SECURITY MODE COMMAND:

2> initialise the information for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO according to the following:

3> set the IE "Uplink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO to zero;

3> do not set the IE "Downlink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO;

3> set the variable INTEGRITY_PROTECTION_ACTIVATION_INFO to zero for each signalling radio bearer in the IE "ESTABLISHED_RABS".

2> set the IE "Status" in the variable INTEGRITY_PROTECTION_INFO to the value "Started";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RB2 at the next received RRC message;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RB2 from and including the received SECURITY MODE COMMAND message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RB2 at the uplink activation time included in the IE "Uplink integrity protection activation info".

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was not included SECURITY MODE COMMAND:

NOTE: This case is used in SRNS relocation

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> let RBm be the signalling radio bearer where the reconfiguration message was received and let RBn be the signalling radio bearer where the response message is transmitted;

2> prohibit transmission of RRC messages on all signalling radio bearers in the IE "ESTABLISHED_RABS" except on RB0 and the radio bearer where the response message is transmitted;

~~2> consider the new integrity protection configuration to include any new keys that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed;~~

2> if for a signalling radio bearer, a security configuration triggered by a previous SECURITY MODE COMMAND is pending, due to the activation time for the signalling radio bearer not having elapsed:

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new integrity protectioon configuration to include the received new keys and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12.

3> else

4> consider the new Integrity Protection configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN associated with the previously received SECURITY MODE COMMAND and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message.

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RBm at the next received RRC message disregarding any pending activation times for the corresponding signalling radio bearer;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RBm from and including the received configuration message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RBn from and including the transmitted response message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RBn from the first message onwards.

NOTE: The UTRAN should ignore the information included in the IE "Uplink integrity protection info".

1> if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was included in SECURITY MODE COMMAND:

2> store the (oldest currently used) integrity protection configuration until activation times have elapsed for the new integrity protection configuration to be applied on all signalling radio bearers;

2> if there are pending activation times set for integrity protection by a previous procedure changing the integrity protection configuration:

3> apply the integrity protection configuration at this pending activation time as indicated in this procedure.

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1;

3> if present, use the algorithm indicated by the IE "Integrity protection algorithm" (UIA [40]);

2> set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:

3> for each established signalling radio bearer, stored in the variable ESTABLISHED_RABS:

4> select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:

5> for each signalling radio bearer that has no pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration.

5> for signalling radio bearer that has a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set the same value as the pending activation time for integrity protection;

5> consider this (pending) activation time to be elapsed when the selected activation time (as above) is equal to the next RRC sequence number to be used, which means that the last RRC message using the old integrity protection configuration has been submitted to lower layers.

4> for signalling radio bearer RB0:

5> set the value of the included RRC sequence number to greater than or equal to the current value of the RRC sequence number for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO, plus the value of the constant N302 plus one.

4> prohibit the transmission of RRC messages on all signalling radio bearers, except for RB2, with RRC SN greater than or equal to the value in the "RRC message sequence number list" for the signalling radio bearer in the IE "Uplink integrity protection activation info" of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration;

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info";

NOTE: For signalling radio bearers that have a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration, UTRAN should set this value in IE "Downlink integrity protection activation info".

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration.

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode command info" was not included in the message SECURITY MODE COMMAND; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode info" was included in the message SECURITY MODE COMMAND, and the IE "Integrity protection algorithm" is not included; or

If the IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not Started"; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode command info" was included in the message SECURITY MODE COMMAND; or

If there does not exist exactly one integrity protection activation time in the IE "Downlink integrity protection activation info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS"; or

If IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode info" was not included in the message SECURITY MODE COMMAND:

the UE shall:

1> ignore this attempt to change the integrity protection configuration; and

1> set the variable INVALID_CONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is not present, the UE shall:

1> not change the integrity protection configuration.

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, June 24-28, 2002

TdocR2-021639

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1534** ⌘ **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 ☒ Radio Access Network ☒ Core Network ☐

Title: ⌘	Application of integrity keys in case of a pending CN domain switch during a SRNS relocation	
Source: ⌘	TSG-RAN WG2	
Work item code: ⌘	TEI	***Date:*** ⌘ June 14, 2002
Category: ⌘	**A**	***Release:*** ⌘ Rel-5

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 RAN#16 a change request to 25.331 was approved which provided for the correct application of integrity keys on a SRNS relocation following a pending securit procedure an a signalling radio bearer. The text currently states: "consider the new integrity protection configuration to include any ***new*** keys that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed"

The word "new" can be construed to imply that only in case the previous security procedure activated new keys (for the same domain) shall the UE apply them immediately after the SRNS relocation procedure. The UE behavior, post SRNS relocation, in case the previous security procedure was caused due to the reception of a SECURITY MODE COMMAND with a domain change (i.e. SRBs are now to be integrity protected by the keys from latest configured CN domain) could be interpreted as missing. The relocation container from the source to the target does not include the pending activation times and merely conveys the LATEST_CONFIGURED_CN_DOMAIN to the target. Thus the target RNC is unaware of any pending activation times and this would cause the target to apply the security keys of the wrong domain to the signalling messages.

It is also unclear in the specification how the UE sets the HFN value after relocation in the case of pending security configuration due to change in LATEST_CONFIGURED_CN_DOMAIN triggerd by a previous SECURITY MODE COMMAND.

Appropriate UTRAN setting of the activation times for the first security procedure

	may not solve the problem since the UTRAN cannot predict the UE's need to transmit signalling messages on SRB 1, 3 and 4. For similar reasons this problem cannot be solved by requiring the UTRAN to not initiate the SRNS relocation procedure until the pending activation times have elapsed since the UE actions of transmission of uplink signalling messages cannot be predicted. Clarification of UE behavior is therefore seen necessary. **Frequency of problem**: The frequency of this problem is linked to the frequency of the change of the controlling (from a SRB IP and ciphering) CN domain i.e. establishment of Iu connection, and the type of potential triggers of SRNS relocation at the UTRAN. Also linked is the state of the UE and how this influences the triggering of a SRNS relocation at the UTRAN.
Summary of change: ⌘	It is stated that the UE shall apply the keys corresponding to the LATEST_CONFIGURED_CN_DOMAIN following completion of the SRNS relocation procedure in case there is a pending application key due to a previous security procedure. Similar modifications are made in 8.6.3.4 for the case of ciphering. In case of a pending security configuration with change on the LATEST_CONFIGURED_CN_DOMAIN it is clarified that the UE shall set the most significant bits of the HFN to the START value of the LATEST_CONFIGURED_CN_DOMAIN. **Impact Analysis:** **Affected Functionality:** Integrity Protection post SRNS Relocation Correction to a function where specification was ambiguous/not sufficiently explicit/missing procedural text or rules/containing some contradiction. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise.
Consequences if not approved: ⌘	UTRAN would not be able to perform SRNS relocation if the activation times for a security procedure for a signalling radio bearer have not elapsed or signalling messages will be lost in case of SRNS relocation.

Clauses affected:	⌘	8.6.3.4, 8.6.3.5			
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:

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.

8.6.3.4 Ciphering mode info

The IE "Ciphering mode info" defines the new ciphering configuration. At any given time, the UE needs to store at most two different ciphering configurations (keyset and algorithm) per CN domain at any given time in total for all radio bearers and three configurations in total for all signalling radio bearers.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to TRUE, the UE shall:

1> ignore this second attempt to change the ciphering configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Ciphering mode info" is present and if the IE "Reconfiguration" in the variable CIPHERING_STATUS is set to FALSE, the UE shall:

1> if the IE "Status" in the variable CIPHERING STATUS has the value "Not started", and this IE was included in a message that is not the message SECURITY MODE COMMAND; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established RLC-AM and RLC-UM radio bearers included in the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and the IE "Ciphering activation time for DPCH" is not included in the message, and there exist radio bearers using RLC-TM according to the IE "RB information" in the IE "ESTABLISHED_RABS" for the CN domain as indicated in the variable LATEST_CONFIGURED_CN_DOMAIN; or

1> if the IE "Ciphering Mode Info" was received in the message SECURITY MODE COMMAND and there does not exist exactly one ciphering activation time in the IE "Radio bearer downlink ciphering activation time info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS":

2> ignore this attempt to change the ciphering configuration;

2> set the variable INVALID_CONFIGURATION to TRUE;

2> perform the actions as specified in subclause 8.1.12.4c.

1> set the IE "Reconfiguration" in the variable CIPHERING_STATUS to TRUE;

1> set the IE "Status" in the variable CIPHERING_STATUS of the CN domains for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" to "Started";

1> apply the new ciphering configuration in the lower layers for all RBs that belong to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

2> using the ciphering algorithm (UEA [40]) indicated by the IE "Ciphering algorithm" as part of the new ciphering configuration;

2> for each radio bearer that belongs to a CN domain for which the IE "Status" of the variable SECURITY_MODIFICATION is set to "Affected" and all signalling radio bearers:

3> using the value of the IE "RB identity" in the variable ESTABLISHED_RABS minus one as the value of BEARER [40] in the ciphering algorithm.

1> apply the new ciphering configuration as follows:

2> consider an activation time in downlink to be pending:

3> for UM-RLC until an UMD PDU with sequence number equal to or larger than activation time –1 has been received;

3> for AM-RLC until all AMD PDUs with sequence numbers up to and including activation time –1 have been received;

3> for TM-RLC until the CFN indicated in the activation time has been reached.

2> if there are pending activation times in downlink set for ciphering by a previous procedure changing the ciphering configuration for a radio bearer or signalling radio bearer:

3> apply the ciphering configuration included in the current message at this pending activation time;

~~3> consider the ciphering keys that were to be applied following a previous procedure changing the ciphering configuration and which have not yet been applied due to the activation time not having elapsed for a given radio bearer, as part of the ciphering configuration received in the current message.~~

2> if the ciphering configuration is pending for a radio bearer or signalling radio bearer due to a previously received SECURITY MODE COMMAND and the current received message includes the IE "DL Counter Synch Info" or the current received message is a RADIO BEARER RECONFIGURATION message and includes the IE "New U-RNTI":

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new ciphering configuration to include the received new keys and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12;

3> else

4> consider the new ciphering configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN and,

4> initialise the HFN values of the COUNT-C for the corresponding radio bearers or signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message;

3> apply the new ciphering configuration in uplink and downlink immediately following RLC re-establishment.

2> if the IE "Ciphering activation time for DPCH" is present in the IE "Ciphering mode info" and the UE was in CELL_DCH state prior to this procedure:

3> for radio bearers using RLC-TM:

4> apply the old ciphering configuration for CFN less than the number indicated in the IE "Ciphering activation time for DPCH";

4> apply the new ciphering configuration for CFN greater than or equal to the number indicated in IE "Ciphering activation time for DPCH".

2> if the IE "Radio bearer downlink ciphering activation time info" is present:

3> apply the following procedure for each radio bearer and signalling radio bearers using RLC-AM or RLC-UM indicated by the IE "RB identity":

4> suspend uplink transmission on the radio bearer or the signalling radio bearer (except for the SRB where the response message is transmitted) according to the following:

5> do not transmit RLC PDUs with sequence number greater than or equal to the uplink activation time, where the uplink activation time is selected according to the rules below.

4> select an "RLC send sequence number" at which (activation) time the new ciphering configuration shall be applied in uplink for that radio bearer according to the following:

5> for each radio bearer and signalling radio bearer that has no pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest security configuration.

5> for each radio bearer and signalling radio bearer that has a pending ciphering activation time in uplink as set by a previous procedure changing the security configuration:

6> set the same value as the pending ciphering activation time.

5> consider this activation time in uplink to be elapsed when the selected activation time (as above) is equal to the "RLC send sequence number";

4> store the selected "RLC send sequence number" for that radio bearer in the entry for the radio bearer in the variable RB_UPLINK_CIPHERING_ACTIVATION_TIME_INFO;

4> switch to the new ciphering configuration according to the following:

5> use the old ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers smaller than the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> use the new ciphering configuration for the transmitted and received RLC PDUs with RLC sequence numbers greater than or equal to the corresponding RLC sequence numbers indicated in the IE "Radio bearer uplink ciphering activation time info" sent to UTRAN and in the received IE "Radio bearer downlink ciphering activation time info" received from UTRAN, respectively;

5> for a radio bearer using RLC-AM, when the RLC sequence number indicated in the IE "Radio bearer downlink ciphering activation time info" falls below the RLC receiving window and the RLC sequence number indicated in the IE "Radio bearer uplink ciphering activation time info" falls below the RLC transmission window, the UE may release the old ciphering configuration for that radio bearer;

5> if an RLC reset or re-establishment occurs before the activation time for the new ciphering configuration has been reached, ignore the activation time and apply the new ciphering configuration immediately after the RLC reset or RLC re-establishment.

If the IE "Ciphering mode info" is not present, the UE shall:

1> not change the ciphering configuration.

8.6.3.5 Integrity protection mode info

The IE "Integrity protection mode info" defines the new integrity protection configuration. At any given time, the UE needs to store at most three different integrity protection configurations (keysets) in total for all signalling radio bearers for all CN domains.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to TRUE, the UE shall:

1> ignore this second attempt to change the integrity protection configuration; and

1> set the variable INCOMPATIBLE_SECURITY_RECONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is present and if the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO is set to FALSE, the UE shall:

1> set the IE "Reconfiguration" in the variable INTEGRITY_PROTECTION_INFO to TRUE;

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and this IE was included in the message SECURITY MODE COMMAND:

2> initialise the information for all signalling radio bearers in the variable INTEGRITY_PROTECTION_INFO according to the following:

3> set the IE "Uplink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO to zero;

3> do not set the IE "Downlink RRC Message sequence number" in the variable INTEGRITY_PROTECTION_INFO;

3> set the variable INTEGRITY_PROTECTION_ACTIVATION_INFO to zero for each signalling radio bearer in the IE "ESTABLISHED_RABS".

2> set the IE "Status" in the variable INTEGRITY_PROTECTION_INFO to the value "Started";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RB2 at the next received RRC message;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RB2 from and including the received SECURITY MODE COMMAND message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RB2 from and including the transmitted SECURITY MODE COMPLETE message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RB2 at the uplink activation time included in the IE "Uplink integrity protection activation info".

1> if IE "Integrity protection mode command" has the value "start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was not included SECURITY MODE COMMAND:

NOTE: This case is used in SRNS relocation

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1 by:

3> using the algorithm (UIA [40]) indicated by the IE "Integrity protection algorithm" contained in the IE "Integrity protection mode info";

3> using the IE "Integrity protection initialisation number", contained in the IE "Integrity protection mode info" as the value of FRESH [40].

2> let RBm be the signalling radio bearer where the reconfiguration message was received and let RBn be the signalling radio bearer where the response message is transmitted;

2> prohibit transmission of RRC messages on all signalling radio bearers in the IE "ESTABLISHED_RABS" except on RB0 and the radio bearer where the response message is transmitted;

~~2> consider the new integrity protection configuration to include any new keys that were activated through a security procedure received prior to the current message but not applied for the signalling radio bearer, due to the activation time for the corresponding signalling radio bearer not having elapsed;~~

2> if for a signalling radio bearer, a security configuration triggered by a previous SECURITY MODE COMMAND is pending, due to the activation time for the signalling radio bearer not having elapsed:

3> if the previous SECURITY MODE COMMAND was received due to new keys being received:

4> consider the new integrity protectioon configuration to include the received new keys and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12.

3> else

4> consider the new Integrity Protection configuration to include the keys associated with the LATEST_CONFIGURED_CN_DOMAIN associated with the previously received SECURITY MODE COMMAND and,

4> initialise the HFN of the COUNT-I values of the corresponding signalling radio bearers according to subclause 8.1.12 using the START value associated with the LATEST_CONFIGURED_CN_DOMAIN to be transmitted in the response to the current message.

2> start applying the new integrity protection configuration in the downlink for each signalling radio bearer in the IE "ESTABLISHED_RABS" except RBm at the next received RRC message disregarding any pending activation times for the corresponding signalling radio bearer;

2> start applying the new integrity protection configuration in the downlink for signalling radio bearer RBm from and including the received configuration message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearer RBn from and including the transmitted response message;

2> start applying the new integrity protection configuration in the uplink for signalling radio bearers other than RBn from the first message onwards.

NOTE: The UTRAN should ignore the information included in the IE "Uplink integrity protection info".

1> if IE "Integrity protection mode command" has the value "modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started" and this IE was included in SECURITY MODE COMMAND:

2> store the (oldest currently used) integrity protection configuration until activation times have elapsed for the new integrity protection configuration to be applied on all signalling radio bearers;

2> if there are pending activation times set for integrity protection by a previous procedure changing the integrity protection configuration:

3> apply the integrity protection configuration at this pending activation time as indicated in this procedure.

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each signalling radio bearer n, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info", included in the IE "Integrity protection mode info";

2> perform integrity protection on the received message, applying the new integrity protection configuration, as described in subclause 8.5.10.1;

3> if present, use the algorithm indicated by the IE "Integrity protection algorithm" (UIA [40]);

2> set the content of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO according to the following:

3> for each established signalling radio bearer, stored in the variable ESTABLISHED_RABS:

4> select a value of the RRC sequence number at which (activation) time the new integrity protection configuration shall be applied in uplink for that signalling radio bearer according to the following:

5> for each signalling radio bearer that has no pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set a suitable value that would ensure a minimised delay in the change to the latest integrity protection configuration.

5> for signalling radio bearer that has a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration:

6> set the same value as the pending activation time for integrity protection;

5> consider this (pending) activation time to be elapsed when the selected activation time (as above) is equal to the next RRC sequence number to be used, which means that the last RRC message using the old integrity protection configuration has been submitted to lower layers.

4> for signalling radio bearer RB0:

5> set the value of the included RRC sequence number to greater than or equal to the current value of the RRC sequence number for signalling radio bearer RB0 in the variable INTEGRITY_PROTECTION_INFO, plus the value of the constant N302 plus one.

4> prohibit the transmission of RRC messages on all signalling radio bearers, except for RB2, with RRC SN greater than or equal to the value in the "RRC message sequence number list" for the signalling radio bearer in the IE "Uplink integrity protection activation info" of the variable INTEGRITY_PROTECTION_ACTIVATION_INFO.

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Uplink integrity protection activation info", included in the variable INTEGRITY_PROTECTION_ACTIVATION_INFO;

2> start applying the new integrity protection configuration in the uplink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration;

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number, for each RBn, except for signalling radio bearer RB2, indicated by the entry for signalling radio bearer n in the "RRC message sequence number list" in the IE "Downlink integrity protection activation info";

NOTE: For signalling radio bearers that have a pending activation time as set for integrity protection by a previous procedure changing the integrity protection configuration, UTRAN should set this value in IE "Downlink integrity protection activation info".

2> start applying the new integrity protection configuration in the downlink at the RRC sequence number for signalling radio bearer RB2, as specified for the procedure initiating the integrity protection reconfiguration.

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode command info" was not included in the message SECURITY MODE COMMAND; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not started", and the IE "Integrity protection mode info" was included in the message SECURITY MODE COMMAND, and the IE "Integrity protection algorithm" is not included; or

If the IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Not Started"; or

If IE "Integrity protection mode command" has the value "Start" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode command info" was included in the message SECURITY MODE COMMAND; or

If there does not exist exactly one integrity protection activation time in the IE "Downlink integrity protection activation info" for each established signalling radio bearer included in the IE "Signalling radio bearer information" in the IE "ESTABLISHED_RABS"; or

If IE "Integrity protection mode command" has the value "Modify" and the IE "Status" in the variable INTEGRITY_PROTECTION_INFO has the value "Started", and the IE "Integrity protection mode info" was not included in the message SECURITY MODE COMMAND:

the UE shall:

1> ignore this attempt to change the integrity protection configuration; and

1> set the variable INVALID_CONFIGURATION to TRUE.

If the IE "Integrity protection mode info" is not present, the UE shall:

1> not change the integrity protection configuration.

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, 24th – 27th June 2002

Tdoc ⌘R2-022334

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1535** ⌘ **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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Clarifications on Quality Measurements
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	21/08/2002
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:	⌘	During RAN2#29, it was pointed out that no measurement period was defined for additional quality measurements or for quality measurements triggered by a quality event (see R2-21303). ~~Also during RAN2#29 it was agreed that zero length transport blocks should not contribute to quality measurements (see R2-021369)~~ RAN1 have clarified that zero-length transport blocks should be considered for quality measurements and events.
Summary of change:	⌘	In R99 it is proposed to constrain quality measurement reporting to periodical measurement only. ~~It is proposed to explicitly add statements to the quality measurement sections to indicate that zero length transport blocks do not contribute to quality measurements nor quality events.~~ **Impact Analysis:** Impact is isolated only to quality measurement function: • Correction to a function where the specification was o Unclear Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	UE behaviour is not specified for cases where additional quality measurements or quality measurements triggered by a quality event.

Clauses affected:	⌘	10.3.7.56			
		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:

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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.

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.

10.3.7.56 Quality measurement

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Quality reporting quantity	OP		Quality reporting quantity 10.3.7.59	
CHOICE *report criteria*	MP			
>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	NOTE Given this choice, the IE "DL Transport Channel BLER" shall be set to "False" (see 10.3.7.59)
>Periodical reporting criteria			Periodical reporting criteria 10.3.7.53	NOTE
>No reporting				NOTE (no data) Chosen when this measurement only is used as additional measurement to another measurement

NOTE: In this version of the specification, BLER as additional measurement is not supported.

10.3.7.57 Quality measurement event results

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Transport channels causing the event	OP	1 to <maxTrCH>		
>DL Transport channel identity	MP		Transport channel identity 10.3.5.18	transport channel type = DCH

10.3.7.58 Quality measurement reporting criteria

Event 5a: Number of bad CRCs on a certain transport channel exceeds a threshold.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Parameters sent for each transport channel	MP	1 to <maxTrCH>		
>DL Transport channel identity	MP		Transport channel identity 10.3.5.18	transport channel type = DCH
>Total CRC	MP		Integer(1..512)	Number of CRCs
>Bad CRC	MP		Integer(1..512)	Number of CRCs
>Pending after trigger	MP		Integer(1..512)	Number of CRCs

10.3.7.59 Quality reporting quantity

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DL Transport Channel BLER	MP		Boolean	TRUE means report requested
Transport channels for BLER reporting	CV-*BLER reporting*	1 to <maxTrCH>		The default, if no transport channel identities are present, is that the BLER is reported for all downlink transport channels
>DL Transport channel identity	MP		Transport channel identity 10.3.5.18	transport channel type = DCH
CHOICE *mode*	MP			
>FDD				No data
>TDD				
>>SIR measurement list	OP	1 to <maxCCTrCH>		SIR measurements shall be reported for all listed TFCS IDs
>>>TFCS ID	MP		Integer(1...8)	

Condition	Explanation
BLER reporting	This IE is not needed if the IE "DL Transport Channel BLER" is "False" and optional if the IE "DL Transport Channel BLER" is "True"

14.5 Quality Measurements

14.5.1 Quality reporting measurement quantities

For quality measurements, the following measurement quantities are used:

1. Downlink transport channel BLER
2. Timeslot SIR (TDD only)

14.5.2 Quality reporting events

14.5.2.1 Reporting event 5A: A predefined number of bad CRCs is exceeded

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the amount of bad CRCs during a predefined sliding window exceeds a predefined number.

The following three parameters are used in the scheme:

- **Total CRC** = the length of the sliding window over which the number of bad CRCs are counted.
- **Bad CRC** = the number of bad CRC that is required within the latest "Total CRC" received CRCs for the event to be triggered.
- **Pending after trigger** = a new event can not be triggered until "Pending after trigger" CRCs have been received,

When a DCH is established, the UE shall begin to count the number of bad CRCs within the last "Total CRC" received CRCs. No event can be triggered until at least "Total CRC" CRCs have been received. For each new received CRC, the UE shall compare the number of bad CRCs within the latest "Total CRC" received CRCs with the parameter "Bad CRC". An event shall be triggered if the number of bad CRCs is equal or larger than "Bad CRC".

At the time when the event is triggered a pending time after trigger timer is started with the length of "Pending after trigger" CRCs. A new event can not be triggered until Pending after trigger" CRCs have been received. When Pending after trigger" CRCs have been received the event evaluation start again and a new event can be triggered.

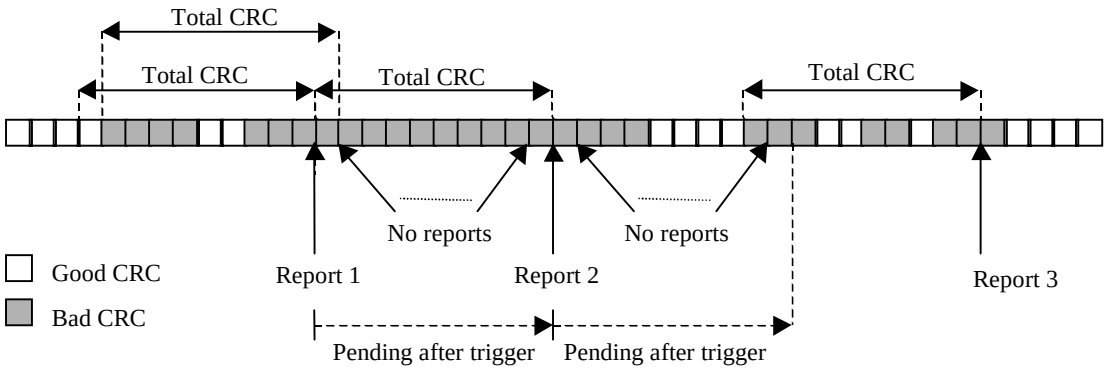

Figure 14.5.2.1-1: Event triggered CRC error reporting

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, 24th – 27th June 2002

Tdoc ⌘R2-022335

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1536** ⌘ **rev** **1** ⌘ 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:	⌘	Clarifications on Quality Measurements
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	20/08/2002
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)*
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:	⌘	During RAN2#29, it was pointed out that no measurement period was defined for additional quality measurements or for quality measurements triggered by a quality event (see R2-21303). ~~Also during RAN2#29 it was agreed that zero length transport blocks should not contribute to quality measurements (see R2-021369)~~ RAN1 have clarified that zero-length transport blocks should be considered for quality measurements and events.
Summary of change:	⌘	In R99 it is proposed to constrain quality measurement reporting to periodical measurement only. ~~It is proposed to explicitly add statements to the quality measurement sections to indicate that zero length transport blocks do not contribute to quality measurements nor quality events.~~ **Impact Analysis:** Impact is isolated only to quality measurement function: • Correction to a function where the specification was o Unclear Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	UE behaviour is not specified for cases where additional quality measurements or quality measurements triggered by a quality event.

Clauses affected:	⌘	10.3.7.56			
		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:

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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.

10.3.7.56 Quality measurement

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Quality reporting quantity	OP		Quality reporting quantity 10.3.7.59	
CHOICE *report criteria*	MP			
>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	NOTE Given this choice, the IE "DL Transport Channel BLER" shall be set to "False" (see 10.3.7.59)
>Periodical reporting criteria			Periodical reporting criteria 10.3.7.53	NOTE
>No reporting				NOTE (no data) Chosen when this measurement only is used as additional measurement to another measurement

NOTE: In this version of the specification, BLER as additional measurement is not supported.

14.5.2.1 Reporting event 5A: A predefined number of bad CRCs is exceeded

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the amount of bad CRCs during a predefined sliding window exceeds a predefined number.

The following three parameters are used in the scheme:

- **Total CRC** = the length of the sliding window over which the number of bad CRCs are counted.
- **Bad CRC** = the number of bad CRC that is required within the latest "Total CRC" received CRCs for the event to be triggered.
- **Pending after trigger** = a new event can not be triggered until "Pending after trigger" CRCs have been received,

When a DCH is established, the UE shall begin to count the number of bad CRCs within the last "Total CRC" received CRCs. No event can be triggered until at least "Total CRC" CRCs have been received. For each new received CRC, the UE shall compare the number of bad CRCs within the latest "Total CRC" received CRCs with the parameter "Bad CRC". An event shall be triggered if the number of bad CRCs is equal or larger than "Bad CRC".

At the time when the event is triggered a pending time after trigger timer is started with the length of "Pending after trigger" CRCs. A new event can not be triggered until Pending after trigger" CRCs have been received. When Pending after trigger" CRCs have been received the event evaluation start again and a new event can be triggered.

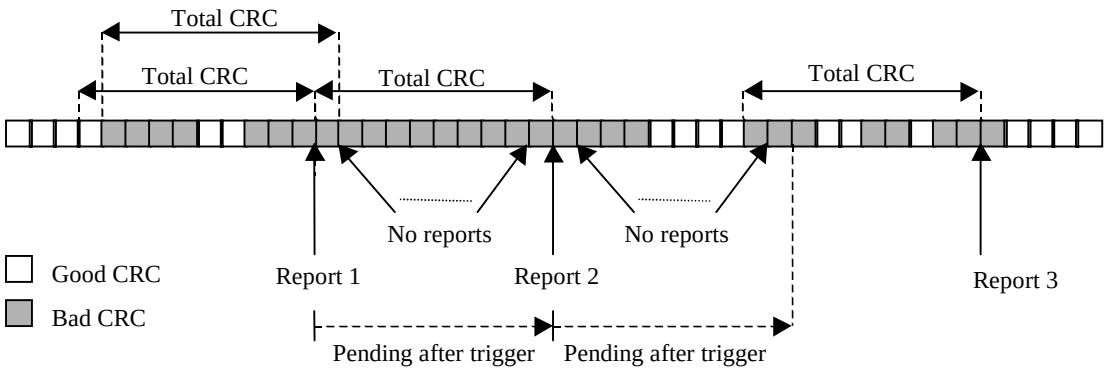

Figure 14.5.2.1-1: Event triggered CRC error reporting

3GPP TSG-RAN WG2 Meeting #30
Torino, Italy, 24th – 27th June 2002

Tdoc ⌘R2-022336

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1537** ⌘ **rev** **1** ⌘ 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:	⌘	Clarifications on Quality Measurements
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	21/08/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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:	⌘	During RAN2#29, it was pointed out that no measurement period was defined for additional quality measurements or for quality measurements triggered by a quality event (see R2-21303). ~~Also during RAN2#29 it was agreed that zero length transport blocks should not contribute to quality measurements (see R2-021369)~~ RAN1 have clarified that zero-length transport blocks should be considered for quality measurements and events.
Summary of change:	⌘	In R99 it is proposed to constrain quality measurement reporting to periodical measurement only. ~~It is proposed to explicitly add statements to the quality measurement sections to indicate that zero length transport blocks do not contribute to quality measurements nor quality events.~~ **Impact Analysis:** Impact is isolated only to quality measurement function: • Correction to a function where the specification was o Unclear Would not affect implementations behaving as indicated in the CR, may affect implementations supporting the corrected functionality otherwise.
Consequences if not approved:	⌘	UE behaviour is not specified for cases where additional quality measurements or quality measurements triggered by a quality event.

Clauses affected:	⌘	10.3.7.56			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

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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.

10.3.7.56 Quality measurement

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Quality reporting quantity	OP		Quality reporting quantity 10.3.7.59	
CHOICE *report criteria*	MP			
>Quality measurement reporting criteria			Quality measurement reporting criteria 10.3.7.58	NOTE Given this choice, the IE "DL Transport Channel BLER" shall be set to "False" (see 10.3.7.59)
>Periodical reporting criteria			Periodical reporting criteria 10.3.7.53	NOTE
>No reporting				NOTE (no data) Chosen when this measurement only is used as additional measurement to another measurement

NOTE: In this version of the specification, BLER as additional measurement is not supported.

14.5.2.1 Reporting event 5A: A predefined number of bad CRCs is exceeded

When this event is ordered by UTRAN in a measurement control message, the UE shall send a measurement report when the amount of bad CRCs during a predefined sliding window exceeds a predefined number.

The following three parameters are used in the scheme:

- **Total CRC** = the length of the sliding window over which the number of bad CRCs are counted.
- **Bad CRC** = the number of bad CRC that is required within the latest "Total CRC" received CRCs for the event to be triggered.
- **Pending after trigger** = a new event can not be triggered until "Pending after trigger" CRCs have been received,

When a DCH is established, the UE shall begin to count the number of bad CRCs within the last "Total CRC" received CRCs. No event can be triggered until at least "Total CRC" CRCs have been received. For each new received CRC, the UE shall compare the number of bad CRCs within the latest "Total CRC" received CRCs with the parameter "Bad CRC". An event shall be triggered if the number of bad CRCs is equal or larger than "Bad CRC".

At the time when the event is triggered a pending time after trigger timer is started with the length of "Pending after trigger" CRCs. A new event can not be triggered until Pending after trigger" CRCs have been received. When Pending after trigger" CRCs have been received the event evaluation start again and a new event can be triggered.

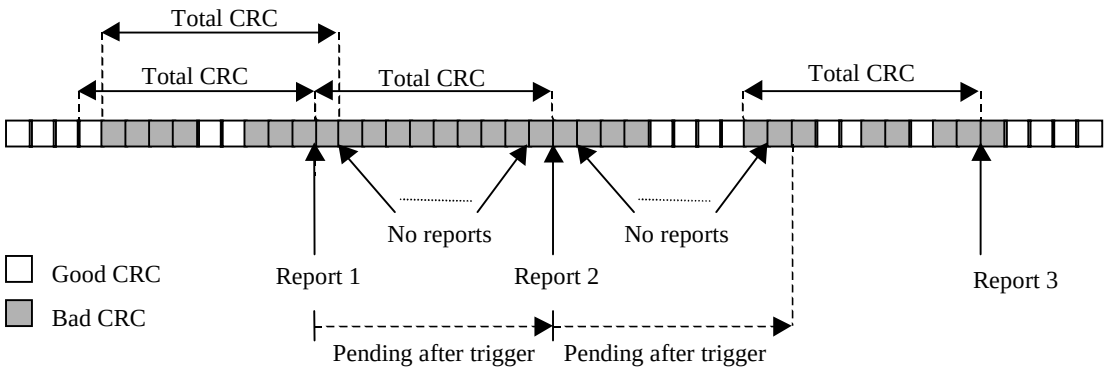

Figure 14.5.2.1-1: Event triggered CRC error reporting

3GPP TSG-RAN WG2 Meeting #30
Turin, Italy, 24-27 June 2002

R2-021720

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1538** ⌘ **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:	⌘	Correction of DPCH constant value in TDD default radio configurations
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25/06/2002
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: ⌘ Currently the DPCH-ConstantValue set in the default radio configurations (used by TDD open loop power control) is set to -20. The UL power for DPCH is calculated using the function:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{DPCH Constant value}$$

So if DPCH-ConstantValue is set to -20 then the SIR at the node B will be 20dB below the SIR target value.

Note that CR1228 in RAN27 has been accepted and this corrected the range of the constant value for TDD so that 0dB was an allowed value.

Summary of change: ⌘ In section 13.7 the DPCH-ConstantValue is modified to 0 from -20.

Consequences if not approved: ⌘ Uplink power control will not work for TDD using the default radio configurations.

Impact analysis: This CR is considered to have isolated impact since it affects the default radio configurations in TDD mode only. If the UE does not implement this CR TDD power control will not work when using the default radio configurations.

Clauses affected: ⌘ 13.7

Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	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.

13.7 Parameter values for default radio configurations

The UE shall support the use of the default radio configurations that are specified in the following.

NOTE 1: These configurations are based on [41] and cover a number of RAB and signalling connection configurations.

In the table that is used to specify the parameter values for these default configurations, the following principles are used:

- Optional IEs that are not used are omitted;
- In case no parameter value is specified in a column, this means the value given the previous (left side) column applies.

NOTE 2: If needed, signalling radio bearer RB4 is established after the completion of handover.

NOTE 3: For each default configuration, the value of both FDD and TDD parameters are specified. All parameters apply to both FDD and TDD modes, unless explicitly stated otherwise. It should be noted that in this respect default configurations differ from pre-defined configurations, which only include parameter values for one mode.

NOTE 4: The transport format sizes, indicated in the following table, concern the RLC PDU size, since all configurations concern dedicated channels. The transport block sizes indicated in TS 34.108 are different since these include the size of the MAC header.

Configuration	**3.4 kbps signalling**	**13.6 kbps signalling**	**7.95 kbps speech + 3.4 kbps signalling**	**12.2 kbps speech + 3.4 kbps signalling**
Ref 34.108	2	3	6	4
Default configuration identity	0	1	2	3
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5-RB6: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard RB5- RB6: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15 RB5- RB6: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300 RB5- RB6: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1 RB5- RB6: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 100	RB2- RB3: 300	RB2- RB3: 300

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5- RB6: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE RB5- RB6: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 100	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured	RB1- RB3: configured	RB1- RB3: configured RB5- RB6: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
>Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>tf0/ tf0,1	TrCH1: (0x144, 1x144)	TrCH1: (0x144, 1x144)	TrCH1: (0x75) TrCH2: (0x 84 1x84) TrCH3: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103, 1x103) TrCH3: (0x 60, 1x60) TrCH4: (0x144, 1x144)
>>>>rlcSize	BitMode	BitMode	BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 75 TrCH2: type 1: 84 TrCH3: 2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one	TrCH1: Zero, one	TrCH1: Zero TrCH2-3: Zero, one	TrCH1: Zero TrCH2-4: Zero, one
>>>>logicalChannelList	All	All	All	All
>>>tf 1	N/A	N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One	TrCH1: One
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: 1: 39	TrCH1: 1: 39
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>>tf 2	N/A	N/A	TrCH1: (1x75) TrCH2- TrCH3: N/A	TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: Zero	TrCH1: Zero
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75	TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>semistaticTF-Information				
>>>tti	TrCH1: 40	TrCH1: 10	TrCH1- TrCH2: 20 TrCH3: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	Convolutional	Convolutional	Convolutional	Convolutional
>>>>codingRate	TrCH1: Third	TrCH1: Third	TrCH1- TrCH2: Third TrCH3: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 160	TrCH1: 160	TrCH1: 200 TrCH2: 190 TrCH3: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160
>>>crc-Size	TrCH1: 16	TrCH1: 16	TrCH1: 12 TrCH2: 0 TrCH3: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Explicit <Only tf0 on TrCH1 is different and shown below>	Explicit <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS	DedicatedTransChTFS
>>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>tf0/ tf0,1			TrCH1: (1x0)	TrCH1: (1x0)
>>>>rlcSize			BitMode	bitMode
>>>>>sizeType			TrCH1: type 1: 0	TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			All	All
>>ULTrCH-Id	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $5x10^{-2}$	TrCH1: $5x10^{-2}$	TrCH1: $7x10^{-3}$ TrCH2- TrCH3: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0)	(TF0)	(TF0, TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1)	(TF1)	(TF1, TF0, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Signalled	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	11	11	N/A	N/A
>>>>>>>>βd	15	15	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 3			(TF2, TF1, TF0)	(TF2, TF1, TF1, TF0)
>>>>>>>ctfc			5	11
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 4			(TF0, TF0, TF1)	(TF0, TF0, TF0, TF1)
>>>>>>>ctfc			6	12
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>βc (FDD only)			N/A	N/A
>>>>>>>>βd			N/A	N/A
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 5			(TF1, TF0, TF1)	(TF1, TF0, TF0, TF1)
>>>>>>>ctfc			7	13
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 6			(TF2, TF1, TF1)	(TF2, TF1, TF1, TF1)

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>>>>ctfc			11	23
>>>>>>>gainFactorInformation			Signalled	Signalled
>>>>>>>>βc (FDD only)			11	11
>>>>>>>>βd			15	15
>>>>>>>>referenceTFCId			0	0
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	1	1	1	0.88
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	256	128	128	128
>>tfci-Existence	FALSE	FALSE	FALSE	FALSE
>>pilotBits	4	4	4	4
>>positionFixed	N/A	N/A	Fixed	Fixed
PhyCH INFORMATION TDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	4	4	16	16
>>puncturingLimit	1	0.92	0.52	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	4	4	16	16
>>>puncturingLimit	1	0.92	0.52	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
Ref 34.108	12	14	13	15
Default configuration identity	4	5	6	7
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
> Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 1x640) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 2x640) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576) TrCH2: (0x144, 1x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode
>>>>>sizeType	TrCH1: type 2, part1= 11, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero,1, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one TrCH2: Zero, one	TrCH1: Zero, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one, TrCH2: Zero, one
>>>>logicalChannelList	All	All	All	All
>>semiStaticTF-Information				
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 40 TrCH2: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third
>>>rateMatchingAttribute	TrCH1: 180 TrCH2: 160	TrCH1: 185 TrCH2: 160	TrCH1: 170 TrCH2: 160	TrCH1: 165 TrCH2: 160
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>tfs-SignallingMode	SameAsUL	SameAsUL	SameAsUL	SameAsUL
>>transportFormatSet				
>>>dynamicTF-information				
>>>>tf0/ tf0,1				
>>>>rlcSize				

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>>sizeType				
>>>>numberOfTbSizeList				
>>>>logicalChannelList				
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF0, TF1)	(TF0, TF1)	(TF0, TF1)
>>>>>>>ctfc	2	2	2	2
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF1, TF1)	(TF1, TF1)	(TF1, TF1)
>>>>>>>ctfc	3	3	3	3
>>>>>>>gainFactorInformation	Computed	Signalled	Signalled	Signalled
>>>>>>>>βc (FDD only)	N/A	8	8	11
>>>>>>>>βd	N/A	15	15	15
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 5	(TF1, TF1)	N/A	N/A	
>>>>>>>ctfc	4			
>>>>>>>gainFactorInformation	Computed			
>>>>>>>>referenceTFCId	0			
>>>>>>TFCS 6	(TF2, TF1)	N/A	N/A	
>>>>>>>ctfc	5			
>>>>>>>gainFactorInformation	Signalled			
>>>>>>>>βc (FDD only)	8			
>>>>>>>>βd	15			
>>>>>>>>referenceTFCId	0			
>>>>>>TFCS 7				
>>>>>>>ctfc				

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 8				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 9				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 10				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>βc (FDD only)				
>>>>>>>>βd				
>>>>>>>>referenceTFCId				
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	0.92	0.8	0.92	1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	64	64	32	128
>>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>>pilotBits	8	8	8	8
>>positionFixed	Flexible	Flexible	Flexible	Flexible
PhyCH INFORMATION TDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	8	8	8
>>puncturingLimit	0.44	0.8	0.56	0.8
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	8	8	8

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>puncturingLimit	0.44	0.64	0.56	0.8
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
Ref 34.108	16	17	4a
Default configuration identity	8	9	10
RB INFORMATION			
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo			
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList			
>>Mapping option 1	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH			
UL-AddReconfTransChInfoList			
>Uplink transport channel type	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information			
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576, 2x576, 3x576, 4x576) TrCH2: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103 TrCH3: (0x 60) TrCH4: (0x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one, 2 TrCH2: Zero, one	TrCH1: Zero, one, 2, 3, 4 TrCH2: Zero, one	TrCH1-4: Zero
>>>>logicalChannelList	All	All	All
>>>tf 1			TrCH1: (1x39) TrCH2: (1x53) TrCH3: (1x60) TrCH4: (1x144)

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>numberOfTransportBlocks			TrCH1-3: One
>>>>rlc-Size			TrCH1-3: BitMode
>>>>>sizeType			TrCH1: 1: 39 TrCH2: 1: 53 TrCH3: 1: 60
>>>>numberOfTbSizeList			TrCH1-3: One
>>>>logicalChannelList			TrCH1-3: all
>>>tf 2			TrCH1: (1x42) TrCH2: (1x63) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 42 TrCH2: type 1: 63
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 3			TrCH1: (1x55) TrCH2: (1x84) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: Zero
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 55 TrCH2: type 1: 84
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 4			TrCH1: (1x75) TrCH2: (1x103) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75 TrCH2: type 1: 103
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 5			TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			TrCH1: all
>>semiStaticTF-Information			
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 40 TrCH2: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	Convolutional
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 155 TrCH2: 160	TrCH1: 145 TrCH2: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList			
>Downlink transport channel type	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Independent <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS
>>>dynamicTF-information			
>>>>tf0/ tf0,1			TrCH1: (1x0)
>>>>rlcSize			bitMode
>>>>>sizeType			TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			All
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget			
>>bler-QualityValue	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON			
ul-CommonTransChInfo			
>tfcs-ID (TDD only)	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete
>>>ctfcSize	Ctfc4Bit	Ctfc4Bit	Ctfc8Bit
>>>>TFCS representation	Addition	Addition	Addition
>>>>>TFCS list			
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF2, TF0)	(TF2, TF1, TF0, TF0)
>>>>>>>ctfc	2	2	8

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF3, TF0)	(TF3, TF2, TF0, TF0)
>>>>>>>ctfc	3	3	15
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 5	(TF1, TF1)	(TF4, TF0)	(TF4, TF3, TF0, TF0)
>>>>>>>ctfc	4	4	22
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 6	(TF2, TF1)	(TF0, TF1)	(TF5, TF4, TF1, TF0)
>>>>>>>ctfc	5	5	59
>>>>>>>gainFactorInformation	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	8	N/A	N/A
>>>>>>>>βd	15	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 7		(TF1, TF1)	(TF0,TF0,TF0,TF1)
>>>>>>>ctfc		6	60
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 8		(TF2, TF1)	(TF1,TF0,TF0,TF1)
>>>>>>>ctfc		7	61
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 9		(TF3, TF1)	(TF2,TF1,TF0,TF1)
>>>>>>>ctfc		8	68
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 10		(TF4, TF1)	(TF3,TF2,TF0,TF1)
>>>>>>>ctfc		9	75
>>>>>>>gainFactorInformation		Signalled	Computed
>>>>>>>>βc (FDD only)		8	N/A
>>>>>>>>βd		15	N/A
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 11			(TF4,TF3,TF0,TF1)
>>>>>>>ctfc			82
>>>>>>>gainFactorInformation			Computed
>>>>>>>>referenceTFCId			0
>>>>>>TFCS 12			(TF5,TF4,TF1,TF1)
>>>>>>>ctfc			119
>>>>>>>gainFactorInformation			Signalled
>>>>>>>>βc (FDD only)			11
>>>>>>>>βd			15
>>>>>>>>referenceTFCId			0
dl-CommonTransChInfo			

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE
>puncturingLimit	1	1	0.88
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>spreadingFactor	64	32	128
>>tfci-Existence	TRUE	TRUE	FALSE
>>pilotBits	8	8	4
>>positionFixed	Flexible	Flexible	Fixed
PhyCH INFORMATION TDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>dpch-ConstantValue	~~-20~~0	~~-20~~0	~~-20~~0
>commonTimeslotInfo			
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	16	16
>>puncturingLimit	0.44	0.48	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>commonTimeslotInfo			
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	16	16
>>>puncturingLimit	0.44	0.48	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

3GPP TSG-RAN WG2 Meeting #30
Turin, Italy, 24-27 June 2002

R2-021723

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1539** ⌘ **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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of DPCH constant value in TDD default radio configurations
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25/06/2002
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)*
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: ⌘ Currently the DPCH-ConstantValue set in the default radio configurations (used by 3.84Mcps TDD open loop power control) is set to -20. The UL power for DPCH is calculated using the function:

$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} +$ DPCH Constant value

So if DPCH-ConstantValue is set to -20 then the SIR at the node B will be 20dB below the SIR target value.

Note that CR1228 in RAN27 has been accepted and this corrected the range of the constant value for TDD so that 0dB was an allowed value.

Summary of change: ⌘ In section 13.7 the DPCH-ConstantValue is modified to 0 from -20.

Consequences if not approved: ⌘ Uplink power control will not work for 3.84Mcps TDD using the default radio configurations.

Impact analysis: This CR is considered to have isolated impact since it affects the default radio configurations in 3.84Mcps TDD mode only. If the UE does not implement this CR 3.84Mcps TDD power control will not work when using the default radio configurations.

Clauses affected: ⌘ 13.7

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:

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.

13.7 Parameter values for default radio configurations

The UE shall support the use of the default radio configurations that are specified in the following.

NOTE 1: These configurations are based on [41] and cover a number of RAB and signalling connection configurations.

In the table that is used to specify the parameter values for these default configurations, the following principles are used:

- Optional IEs that are not used are omitted;
- In case no parameter value is specified in a column, this means the value given the previous (left side) column applies.

NOTE 2: If needed, signalling radio bearer RB4 is established after the completion of handover.

NOTE 3: For each default configuration, the value of FDD, 3.84 Mcps TDD and 1.28 Mcps TDD parameters are specified. All parameters apply to FDD, 3.84 Mcps TDD and 1.28 Mcps TDD modes, unless explicitly stated otherwise. It should be noted that in this respect default configurations differ from pre-defined configurations, which only include parameter values for one mode.

NOTE 4: The transport format sizes, indicated in the following table, concern the RLC PDU size, since all configurations concern dedicated channels. The transport block sizes indicated in TS 34.108 are different since these include the size of the MAC header.

Configuration	**3.4 kbps signalling**	**13.6 kbps signalling**	**7.95 kbps speech + 3.4 kbps signalling**	**12.2 kbps speech + 3.4 kbps signalling**
Ref 34.108	2	3	6	4
Default configuration identity	0	1	2	3
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5-RB6: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard RB5- RB6: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15 RB5- RB6: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300 RB5- RB6: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1 RB5- RB6: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 100	RB2- RB3: 300	RB2- RB3: 300

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5- RB6: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE RB5- RB6: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 100	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured	RB1- RB3: configured	RB1- RB3: configured RB5- RB6: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
>Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>tf0/ tf0,1	TrCH1: (0x144, 1x144)	TrCH1: (0x144, 1x144)	TrCH1: (0x75) TrCH2: (0x 84 1x84) TrCH3: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103, 1x103) TrCH3: (0x 60, 1x60) TrCH4: (0x144, 1x144)
>>>>rlcSize	BitMode	BitMode	BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 75 TrCH2: type 1: 84 TrCH3: 2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one	TrCH1: Zero, one	TrCH1: Zero TrCH2-3: Zero, one	TrCH1: Zero TrCH2-4: Zero, one
>>>>logicalChannelList	All	All	All	All
>>>tf 1	N/A	N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One	TrCH1: One
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: 1: 39	TrCH1: 1: 39
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>>tf 2	N/A	N/A	TrCH1: (1x75) TrCH2- TrCH3: N/A	TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: Zero	TrCH1: Zero
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75	TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>semistaticTF-Information				
>>>tti	TrCH1: 40	TrCH1: 10	TrCH1- TrCH2: 20 TrCH3: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	Convolutional	Convolutional	Convolutional	Convolutional
>>>>codingRate	TrCH1: Third	TrCH1: Third	TrCH1- TrCH2: Third TrCH3: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 160	TrCH1: 160	TrCH1: 200 TrCH2: 190 TrCH3: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160
>>>crc-Size	TrCH1: 16	TrCH1: 16	TrCH1: 12 TrCH2: 0 TrCH3: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Explicit <Only tf0 on TrCH1 is different and shown below>	Explicit <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS	DedicatedTransChTFS
>>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>tf0/ tf0,1			TrCH1: (1x0)	TrCH1: (1x0)
>>>>rlcSize			BitMode	bitMode
>>>>>sizeType			TrCH1: type 1: 0	TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			All	All
>>ULTrCH-Id	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $5x10^{-2}$	TrCH1: $5x10^{-2}$	TrCH1: $7x10^{-3}$ TrCH2- TrCH3: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0)	(TF0)	(TF0, TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1)	(TF1)	(TF1, TF0, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Signalled	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	11	11	N/A	N/A
>>>>>>>>βd	15	15	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 3			(TF2, TF1, TF0)	(TF2, TF1, TF1, TF0)
>>>>>>>ctfc			5	11
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 4			(TF0, TF0, TF1)	(TF0, TF0, TF0, TF1)
>>>>>>>ctfc			6	12
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>βc (FDD only)			N/A	N/A
>>>>>>>>βd			N/A	N/A
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 5			(TF1, TF0, TF1)	(TF1, TF0, TF0, TF1)
>>>>>>>ctfc			7	13
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 6			(TF2, TF1, TF1)	(TF2, TF1, TF1, TF1)

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>>>>ctfc			11	23
>>>>>>>gainFactorInformation			Signalled	Signalled
>>>>>>>>βc (FDD only)			11	11
>>>>>>>>βd			15	15
>>>>>>>>referenceTFCId			0	0
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	1	1	1	0.88
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	256	128	128	128
>>tfci-Existence	FALSE	FALSE	FALSE	FALSE
>>pilotBits	4	4	4	4
>>positionFixed	N/A	N/A	Fixed	Fixed
PhyCH INFORMATION 3.84 Mcps TDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	4	4	16	16
>>puncturingLimit	1	0.92	0.52	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	4	4	16	16
>>>puncturingLimit	1	0.92	0.52	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD				
UL-DPCH-InfoPredef				
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	4	4	16	16
>>puncturingLimit	1	0.64	0.80	0.60
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	4	4	16	16
>>>puncturingLimit	1	0.64	0.80	0.60
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
Ref 34.108	12	14	13	15
Default configuration identity	4	5	6	7
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
>Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 1x640) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 2x640) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576) TrCH2: (0x144, 1x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode
>>>>>sizeType	TrCH1: type 2, part1= 11, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero,1, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one TrCH2: Zero, one	TrCH1: Zero, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one, TrCH2: Zero, one
>>>>logicalChannelList	All	All	All	All
>>semiStaticTF-Information				
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 40 TrCH2: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third
>>>rateMatchingAttribute	TrCH1: 180 TrCH2: 160	TrCH1: 185 TrCH2: 160	TrCH1: 170 TrCH2: 160	TrCH1: 165 TrCH2: 160
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>tfs-SignallingMode	SameAsUL	SameAsUL	SameAsUL	SameAsUL
>>transportFormatSet				
>>>dynamicTF-information				
>>>>tf0/ tf0,1				
>>>>rlcSize				
>>>>>sizeType				
>>>>numberOfTbSizeList				
>>>>logicalChannelList				
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF0, TF1)	(TF0, TF1)	(TF0, TF1)
>>>>>>>ctfc	2	2	2	2
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF1, TF1)	(TF1, TF1)	(TF1, TF1)
>>>>>>>ctfc	3	3	3	3
>>>>>>>gainFactorInformation	Computed	Signalled	Signalled	Signalled

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>>>>>βc (FDD only)	N/A	8	8	11
>>>>>>>>βd	N/A	15	15	15
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 5	(TF1, TF1)	N/A	N/A	
>>>>>>>ctfc	4			
>>>>>>>gainFactorInformation	Computed			
>>>>>>>>referenceTFCId	0			
>>>>>>TFCS 6	(TF2, TF1)	N/A	N/A	
>>>>>>>ctfc	5			
>>>>>>>gainFactorInformation	Signalled			
>>>>>>>>βc (FDD only)	8			
>>>>>>>>βd	15			
>>>>>>>>referenceTFCId	0			
>>>>>>TFCS 7				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 8				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 9				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 10				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>βc (FDD only)				
>>>>>>>>βd				
>>>>>>>>referenceTFCId				
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	0.92	0.8	0.92	1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	64	64	32	128
>>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>>pilotBits	8	8	8	8
>>positionFixed	Flexible	Flexible	Flexible	Flexible
PhyCH INFORMATION 3.84 Mcps TDD				
UL-DPCH-InfoPredef				

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	8	8	8
>>puncturingLimit	0.44	0.8	0.56	0.8
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	8	8	8
>>>puncturingLimit	0.44	0.64	0.56	0.8
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD				
UL-DPCH-InfoPredef				
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	8	8	8
>>puncturingLimit	0.64	0.60	0.64	1
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	8	8	8
>>>puncturingLimit	0.64	0.60	0.64	0.88
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
Ref 34.108	16	17	1a
Default configuration identity	8	9	10
RB INFORMATION			
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo			
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList			

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>Mapping option 1	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH			
UL-AddReconfTransChInfoList			
>Uplink transport channel type	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information			
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576, 2x576, 3x576, 4x576) TrCH2: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103 TrCH3: (0x 60) TrCH4: (0x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one, 2 TrCH2: Zero, one	TrCH1: Zero, one, 2, 3, 4 TrCH2: Zero, one	TrCH1-4: Zero
>>>>logicalChannelList	All	All	All
>>>tf 1			TrCH1: (1x39) TrCH2: (1x53) TrCH3: (1x60) TrCH4: (1x144)
>>>>numberOfTransportBlocks			TrCH1-3: One
>>>>rlc-Size			TrCH1-3: BitMode
>>>>>sizeType			TrCH1: 1: 39 TrCH2: 1: 53 TrCH3: 1: 60
>>>>numberOfTbSizeList			TrCH1-3: One
>>>>logicalChannelList			TrCH1-3: all
>>>tf 2			TrCH1: (1x42) TrCH2: (1x63) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 42 TrCH2: type 1: 63
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>tf 3			TrCH1: (1x55) TrCH2: (1x84) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: Zero
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 55 TrCH2: type 1: 84
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 4			TrCH1: (1x75) TrCH2: (1x103) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75 TrCH2: type 1: 103
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 5			TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			TrCH1: all
>>semiStaticTF-Information			
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 40 TrCH2: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	Convolutional
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 155 TrCH2: 160	TrCH1: 145 TrCH2: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList			
>Downlink transport channel type	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Independent <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS
>>>dynamicTF-information			

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>tf0/ tf0,1			TrCH1: (1x0)
>>>>rlcSize			bitMode
>>>>>sizeType			TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			All
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget			
>>bler-QualityValue	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON			
ul-CommonTransChInfo			
>tfcs-ID (TDD only)	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete
>>>ctfcSize	Ctfc4Bit	Ctfc4Bit	Ctfc8Bit
>>>>TFCS representation	Addition	Addition	Addition
>>>>>TFCS list			
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF2, TF0)	(TF2, TF1, TF0, TF0)
>>>>>>>ctfc	2	2	8
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF3, TF0)	(TF3, TF2, TF0, TF0)
>>>>>>>ctfc	3	3	15
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 5	(TF1, TF1)	(TF4, TF0)	(TF4, TF3, TF0, TF0)
>>>>>>>ctfc	4	4	22
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>>>TFCS 6	(TF2, TF1)	(TF0, TF1)	(TF5, TF4, TF1, TF0)
>>>>>>>ctfc	5	5	59
>>>>>>>gainFactorInformation	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	8	N/A	N/A
>>>>>>>>βd	15	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 7		(TF1, TF1)	(TF0,TF0,TF0,TF1)
>>>>>>>ctfc		6	60
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 8		(TF2, TF1)	(TF1,TF0,TF0,TF1)
>>>>>>>ctfc		7	61
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 9		(TF3, TF1)	(TF2,TF1,TF0,TF1)
>>>>>>>ctfc		8	68
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 10		(TF4, TF1)	(TF3,TF2,TF0,TF1)
>>>>>>>ctfc		9	75
>>>>>>>gainFactorInformation		Signalled	Computed
>>>>>>>>βc (FDD only)		8	N/A
>>>>>>>>βd		15	N/A
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 11			(TF4,TF3,TF0,TF1)
>>>>>>>ctfc			82
>>>>>>>gainFactorInformation			Computed
>>>>>>>>referenceTFCId			0
>>>>>>TFCS 12			(TF5,TF4,TF1,TF1)
>>>>>>>ctfc			119
>>>>>>>gainFactorInformation			Signalled
>>>>>>>>βc (FDD only)			11
>>>>>>>>βd			15
>>>>>>>>referenceTFCId			0
dl-CommonTransChInfo			
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE
>puncturingLimit	1	1	0.88
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>spreadingFactor	64	32	128
>>tfci-Existence	TRUE	TRUE	FALSE

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>pilotBits	8	8	4
>>positionFixed	Flexible	Flexible	Fixed
PhyCH INFORMATION 3.84 Mcps TDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>dpch-ConstantValue	~~-20~~0	~~-20~~0	~~-20~~0
>commonTimeslotInfo			
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	16	16
>>puncturingLimit	0.44	0.48	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>commonTimeslotInfo			
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	16	16
>>>puncturingLimit	0.44	0.48	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD			
UL-DPCH-InfoPredef			
>commonTimeslotInfo			
>>secondInterleavingMode	frameRelated	frameRelated	
>>tfci-Coding	16	16	
>>puncturingLimit	0.64	0.72	
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>commonTimeslotInfo			
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	16	16
>>>puncturingLimit	0.64	0.72	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	10.2/6.7/5.9/4.75 kbps speech + 3.4 kbps signalling	7.4/6.7/5.9/4.75 kbps speech + 3.4 kbps signalling
Ref 34.108	N/A	N/A
Default configuration identity	11	12
RB INFORMATION		
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7, RB8: 8	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5-RB7: TM	RB1: UM RB2- RB3: AM RB5-RB6: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB6: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A	RB1: N/A RB2- RB3: 15 RB5- RB6: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A	RB1: N/A RB2- RB3: 300 RB5- RB6: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A	RB1: N/A RB2- RB3: 1 RB5- RB6: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5- RB7: N/A	RB1: N/A RB2- RB3: as below RB5- RB6: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5- RB7: FALSE	RB1- RB3: N/A RB5- RB6: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5- RB7: TM RB8: TM	RB1: UM RB2- RB3: AM RB5- RB6: TM RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5- RB8: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5- RB8: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5- RB8: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 300	RB2- RB3: 300
>>segmentationIndication	RB1- RB3: N/A RB5- RB8: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo		
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch

>>>transportChannelIdentity	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3,	RB1- RB3: 3 RB5: 1, RB6: 2
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A
>>rlc-SizeList	RB1- RB3: configured RB5- RB7: N/A	RB1- RB3: configured RB5- RB6: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: 5
>DL-logicalChannelMappingList		
>>Mapping option 1	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3, RB8: 5	RB1- RB3: 3 RB5: 1, RB6: 2, RB7:4
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5- RB8: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH		
UL-AddReconfTransChInfoList		
>Uplink transport channel type	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4	TrCH1: 1, TrCH2: 2, TrCH3: 3
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information		
>>>tf0/ tf0,1	TrCH1: (0x65) TrCH2: (0x 99) TrCH3: (0x 40, 1x40) TrCH4: (0x144, 1x144)	TrCH1: (0x61) TrCH2: (0x 87) TrCH3: (0x 144, 1x144)
>>>>rlcSize	BitMode	BitMode
>>>>>sizeType	TrCH1: type 1: 65 TrCH2: type 1: 99 TrCH3: type 1: 40 TrCH4: 2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 61 TrCH2: type 1: 87 TrCH3: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1-2: Zero TrCH3-4: Zero, one	TrCH1-2: Zero TrCH3: Zero, one
>>>>logicalChannelList	All	All
>>>tf 1	TrCH1: (1x39) TrCH2: (1x 53) TrCH3- TrCH4: N/A	TrCH1: (1x39) TrCH2: (1x53) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>rlc-Size	TrCH1-2: BitMode	TrCH1-2: BitMode
>>>>>sizeType	TrCH1: 1: 39 TrCH2: 1: 53	TrCH1: 1: 39 TrCH1: 1: 53
>>>>numberOfTbSizeList	TrCH1-2: One	TrCH1-2: One
>>>>logicalChannelList	TrCH1: all	TrCH1: all
>>>tf 2	TrCH1: (1x42) TrCH2: (1x63) TrCH3- TrCH4: N/A	TrCH1: (1x42) TrCH2: (1x63) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode

>>>>>sizeType	TrCH1: type 1: 42 TrCH2: type 1: 63	TrCH1: type 1: 42 TrCH2: type 1: 63
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 3	TrCH1: (1x55) TrCH2: (1x76) TrCH3- TrCH4: N/A	TrCH1: (1x55) TrCH2: (1x76) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 55 TrCH2: type 1: 76	TrCH1: type 1: 55 TrCH2: type 1: 76
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 4	TrCH1: (1x58) TrCH2: (1x99) TrCH3- TrCH4: N/A	TrCH1: (1x58) TrCH2: (1x87) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 58 TrCH2: type 1: 99	TrCH1: type 1: 58 TrCH2: type 1: 87
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 5	TrCH1: (1x65) TrCH2- TrCH4: N/A	TrCH1: (1x61) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks	TrCH1: One	TrCH1: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 42	TrCH1: type 1: 42
>>>>numberOfTbSizeList	TrCH1: One	TrCH1: One
>>>>logicalChannelList	TrCH1: all	TrCH1: all
>>semistaticTF-Information		
>>>tti	TrCH1- TrCH3: 20 TrCH4: 40	TrCH1- TrCH2: 20 TrCH3: 40
>>>channelCodingType	Convolutional	Convolutional
>>>>codingRate	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third	TrCH1- TrCH2: Third TrCH3: Third
>>>rateMatchingAttribute	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160	TrCH1: 200 TrCH2: 190 TrCH3: 160
>>>crc-Size	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16	TrCH1: 12 TrCH2: 0 TrCH3: 16
DL-AddReconfTransChInfoList		
>Downlink transport channel type	dch	dch
>dl-TransportChannelIdentity		
>tfs-SignallingMode	Independent <Only tf0 on TrCH1 and tf0/tf1 on TrCH5 are different and shown below>	Independent <Only tf0 on TrCH1 and tf0/tf1 on TrCH4 are different and shown below>
>>transportFormatSet		
>>>dynamicTF-information		

>>>>tf0/ tf0,1	TrCH1: (1x0) TrCH5: (0x3, 1x3)	TrCH1: (1x0) TrCH4: (0x3, 1x3)
>>>>rlcSize	BitMode	bitMode
>>>>>sizeType	TrCH1: type 1: 0 TrCH5: type 1: 3	TrCH1: type 1: 0 TrCH4: type 1: 3
>>>>numberOfTbSizeList	TrCH1: One TrCH5: Zero, one	TrCH1: One TrCH4: Zero, one
>>>>logicalChannelList	All	All
>>>semistaticTF-Information	same as UL except for TrCH5	same as DL except for TrCH4
>>>>tti	TrCH5: 20	TrCH4: 20
>>>>channelCodingType	Convolutional	Convolutional
>>>>>codingRate	TrCH5: Third	TrCH4: Third
>>>>rateMatchingAttribute	TrCH5: 200	TrCH4: 200
>>>>crc-Size	TrCH5: 12	TrCH4: 12
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4,	TrCH1: 1, TrCH2: 2, TrCH3: 3
>dch-QualityTarget		
>>bler-QualityValue	TrCH1: $7x10^{-3}$ TrCH2- TrCH5: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON		
ul-CommonTransChInfo		
>tfcs-ID (TDD only)	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE
> tfc-Subset	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete
>>>ctfcSize	Ctfc6Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition
>>>>>TFC list		
>>>>>>TFC 1	(TF0, TF0, TF0, TF0)	(TF0, TF0, TF0)
>>>>>>>ctfc	0	0
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 2	(TF1, TF0, TF0, TF0)	(TF1, TF0, TF0)
>>>>>>>ctfc	1	1
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A
>>>>>>>>βd	N/A	N/A
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 3	(TF2, TF1, TF0, TF0)	(TF2, TF1, TF0)
>>>>>>>ctfc	8	8
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 4	(TF3, TF2, TF0, TF0)	(TF3, TF2, TF0)
>>>>>>>ctfc	15	15
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0

>>>>>>TFC 5	(TF4, TF3, TF0, TF0)	(TF4, TF3, TF0)
>>>>>>>ctfc	22	22
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 6	(TF5, TF4, TF1, TF0)	(TF5, TF4, TF0)
>>>>>>>ctfc	59	29
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 7	(TF0, TF0, TF0, TF1)	(TF0, TF0, TF1)
>>>>>>>ctfc	60	30
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 8	(TF1, TF0, TF0, TF1)	(TF1, TF0, TF1)
>>>>>>>ctfc	61	31
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 9	(TF2, TF1, TF0, TF1)	(TF2, TF1, TF1)
>>>>>>>ctfc	68	38
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 10	(TF3, TF2, TF0, TF1)	(TF3, TF2, TF1)
>>>>>>>ctfc	75	45
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 11	(TF4, TF3, TF0, TF1)	(TF4, TF3, TF1)
>>>>>>>ctfc	82	52
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 12	(TF5, TF4, TF1, TF1)	(TF5, TF4, TF1)
>>>>>>>ctfc	97	59
>>>>>>>gainFactorInformation	signalled	signalled
>>>>>>>>βc (FDD only)	11	11
>>>>>>>>βd	15	15
>>>>>>>>referenceTFCId	0	0
> TFC subset list		
>>TFC subset 1	(speech rate 10.2)	(speech rate 7.4)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC6, TFC12)	(TFC1, TFC2, TFC7, TFC8, TFC6, TFC12)
>>TFC subset 2	(speech rate 6.7)	(speech rate 6.7)

>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC5, TFC11)	(TFC1, TFC2, TFC7, TFC8, TFC5, TFC11)
>>TFC subset 3	(speech rate 5.9)	(speech rate 5.9)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC4, TFC10)	(TFC1, TFC2, TFC7, TFC8, TFC4, TFC10)
>>TFC subset 4	(speech rate 4.75)	(speech rate 4.75)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC3, TFC9)	(TFC1, TFC2, TFC7, TFC8, TFC3, TFC9)
dl-CommonTransChInfo		
>tfcs-SignallingMode	Independent	Independent
ul-CommonTransChInfo		
>tfcs-ID (TDD only)	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE
> tfc-Subset	Absent, not required	Absent, not required
>dl-TFCS	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete
>>>ctfcSize	Ctfc6Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition
>>>>>TFCS list		
>>>>>>TFC 1	(TF0, TF0, TF0, TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0
>>>>>>TFC 2	(TF1, TF0, TF0, TF0, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1
>>>>>>TFC 3	(TF2, TF1, TF0, TF0, TF0)	(TF2, TF1, TF0, TF0)
>>>>>>>ctfc	8	8
>>>>>>TFC 4	(TF3, TF2, TF0, TF0, TF0)	(TF3, TF2, TF0, TF0)
>>>>>>>ctfc	15	15
>>>>>>TFC 5	(TF4, TF3, TF0, TF0, TF0)	(TF4, TF3, TF0, TF0)
>>>>>>>ctfc	22	22
>>>>>>TFC 6	(TF5, TF4, TF1, TF0, TF0)	(TF5, TF4, TF0, TF0)
>>>>>>>ctfc	59	29
>>>>>>TFC 7	(TF0, TF0, TF0, TF1, TF0)	(TF0, TF0, TF1, TF0)
>>>>>>>ctfc	60	30
>>>>>>TFC 8	(TF1, TF0, TF0, TF1, TF0)	(TF1, TF0, TF1, TF0)
>>>>>>>ctfc	61	31
>>>>>>TFC 9	(TF2, TF1, TF0, TF1, TF0)	(TF2, TF1, TF1, TF0)
>>>>>>>ctfc	68	37
>>>>>>TFC 10	(TF3, TF2, TF0, TF1, TF0)	(TF3, TF2, TF1, TF0)
>>>>>>>ctfc	75	55
>>>>>>TFC 11	(TF4, TF3, TF0, TF1, TF0)	(TF4, TF3, TF1, TF0)
>>>>>>>ctfc	82	52
>>>>>>TFC 12	(TF5, TF4, TF1, TF1, TF0)	(TF5, TF4, TF1, TF0)
>>>>>>>ctfc	119	59
>>>>>>TFC 13	(TF0, TF0, TF0, TF0, TF1)	(TF0, TF0, TF0, TF1)
>>>>>>>ctfc	120	60

>>>>>>TFC 14	(TF1, TF0, TF0, TF0, TF1)	(TF1, TF0, TF0, TF1)
>>>>>>>ctfc	121	61
>>>>>>TFC 15	(TF2, TF1, TF0, TF0, TF1)	(TF2, TF1, TF0, TF1)
>>>>>>>ctfc	128	68
>>>>>>TFC 16	(TF3, TF2, TF0, TF0, TF1)	(TF3, TF2, TF0, TF1)
>>>>>>>ctfc	135	75
>>>>>>TFC 17	(TF4, TF3, TF0, TF0, TF1)	(TF4, TF3, TF0, TF1)
>>>>>>>ctfc	152	82
>>>>>>TFC 18	(TF5, TF4, TF1, TF0, TF1)	(TF5, TF4, TF0, TF1)
>>>>>>>ctfc	189	89
>>>>>>TFC 19	(TF0, TF0, TF0, TF1, TF1)	(TF0, TF0, TF1, TF1)
>>>>>>>ctfc	180	90
>>>>>>TFC 20	(TF1, TF0, TF0, TF1, TF1)	(TF1, TF0, TF1, TF1)
>>>>>>>ctfc	181	91
>>>>>>TFC 21	(TF2, TF1, TF0, TF1, TF1)	(TF2, TF1, TF1, TF1)
>>>>>>>ctfc	188	98
>>>>>>TFC 22	(TF3, TF2, TF0, TF1, TF1)	(TF3, TF2, TF1, TF1)
>>>>>>>ctfc	195	105
>>>>>>TFC 23	(TF4, TF3, TF0, TF1, TF1)	(TF4, TF3, TF1, TF1)
>>>>>>>ctfc	239	112
>>>>>>TFC 24	(TF5, TF4, TF1, TF1, TF1)	(TF5, TF4, TF1, TF1)
>>>>>>>ctfc	218	119
PhyCH INFORMATION FDD		
UL-DPCH-InfoPredef		
>ul-DPCH-PowerControlInfo		
>>powerControlAlgorithm	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1
>tfci-Existence	TRUE	TRUE
>puncturingLimit	0.88	0.88
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		
>>spreadingFactor	128	128
>>tfci-Existence	FALSE	FALSE
>>pilotBits	4	4
>>positionFixed	Fixed	Fixed
PhyCH INFORMATION 3.84 Mcps TDD		
UL-DPCH-InfoPredef		
>ul-DPCH-PowerControlInfo		
>>dpch-ConstantValue	~~-20~~0	~~-20~~0
>commonTimeslotInfo		
>>secondInterleavingMode	frameRelated	frameRelated
>>tfci-Coding	16	16
>>puncturingLimit	0.60	0.60
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		

>>commonTimeslotInfo		
>>>secondInterleavingMode	frameRelated	frameRelated
>>>tfci-Coding	16	16
>>>puncturingLimit	0.60	0.60
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD		
UL-DPCH-InfoPredef		
>commonTimeslotInfo		
>>secondInterleavingMode	frame Related	frame Related
>>tfci-Coding	16	16
>>puncturingLimit	0.64	0.64
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		
>>commonTimeslotInfo		
>>>secondInterleavingMode	frame Related	frame Related
>>>tfci-Coding	16	16
>>>puncturingLimit	0.64	0.64
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1

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R2-021724

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1540** ⌘ **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 ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Correction of DPCH constant value in TDD default radio configurations
Source:	⌘	IPWireless
Work item code:	⌘	TEI
Date:	⌘	25/06/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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: ⌘ Currently the DPCH-ConstantValue set in the default radio configurations (used by 3.84Mcps TDD open loop power control) is set to -20. The UL power for DPCH is calculated using the function:

$$P_{DPCH} = \alpha L_{PCCPCH} + (1-\alpha)L_0 + I_{BTS} + SIR_{TARGET} + \text{DPCH Constant value}$$

So if DPCH-ConstantValue is set to -20 then the SIR at the node B will be 20dB below the SIR target value.

Note that CR1228 in RAN27 has been accepted and this corrected the range of the constant value for TDD so that 0dB was an allowed value.

Summary of change: ⌘ In section 13.7 the DPCH-ConstantValue is modified to 0 from -20.

Consequences if not approved: ⌘ Uplink power control will not work for 3.84Mcps TDD using the default radio configurations.

Impact analysis: This CR is considered to have isolated impact since it affects the default radio configurations in 3.84Mcps TDD mode only. If the UE does not implement this CR 3.84Mcps TDD power control will not work when using the default radio configurations.

Clauses affected: ⌘ 13.7

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:

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.

13.7 Parameter values for default radio configurations

The UE shall support the use of the default radio configurations that are specified in the following.

NOTE 1: These configurations are based on [41] and cover a number of RAB and signalling connection configurations.

In the table that is used to specify the parameter values for these default configurations, the following principles are used:

- Optional IEs that are not used are omitted;
- In case no parameter value is specified in a column, this means the value given the previous (left side) column applies.

NOTE 2: If needed, signalling radio bearer RB4 is established after the completion of handover.

NOTE 3: For each default configuration, the value of FDD, 3.84 Mcps TDD and 1.28 Mcps TDD parameters are specified. All parameters apply to FDD, 3.84 Mcps TDD and 1.28 Mcps TDD modes, unless explicitly stated otherwise. It should be noted that in this respect default configurations differ from pre-defined configurations, which only include parameter values for one mode.

NOTE 4: The transport format sizes, indicated in the following table, concern the RLC PDU size, since all configurations concern dedicated channels. The transport block sizes indicated in TS 34.108 are different since these include the size of the MAC header.

Configuration	**3.4 kbps signalling**	**13.6 kbps signalling**	**7.95 kbps speech + 3.4 kbps signalling**	**12.2 kbps speech + 3.4 kbps signalling**
Ref 34.108	2	3	6	4
Default configuration identity	0	1	2	3
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5-RB6: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard	RB1: N/A RB2- RB3: NoDiscard RB5- RB6: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15	RB1: N/A RB2- RB3: 15 RB5- RB6: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300	RB1: N/A RB2- RB3: 300 RB5- RB6: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1	RB1: N/A RB2- RB3: 1 RB5- RB6: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM	RB1: UM RB2- RB3: AM RB5- RB6: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE	RB1: N/A RB2- RB3: TRUE RB5- RB6: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below	RB1: N/A RB2- RB3: as below RB5- RB6: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A	RB1- RB3: N/A	RB1- RB3: N/A RB5- RB6: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured	RB1- RB3: configured	RB1- RB3: configured RB5- RB6: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 1	RB1- RB3: 1	RB1- RB3: 3 RB5: 1, RB6: 2	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
>Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>tf0/ tf0,1	TrCH1: (0x144, 1x144)	TrCH1: (0x144, 1x144)	TrCH1: (0x75) TrCH2: (0x 84 1x84) TrCH3: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103, 1x103) TrCH3: (0x 60, 1x60) TrCH4: (0x144, 1x144)
>>>>rlcSize	BitMode	BitMode	BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 75 TrCH2: type 1: 84 TrCH3: 2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one	TrCH1: Zero, one	TrCH1: Zero TrCH2-3: Zero, one	TrCH1: Zero TrCH2-4: Zero, one
>>>>logicalChannelList	All	All	All	All
>>>tf 1	N/A	N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A	TrCH1: (1x39) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One	TrCH1: One
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: 1: 39	TrCH1: 1: 39
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>>tf 2	N/A	N/A	TrCH1: (1x75) TrCH2- TrCH3: N/A	TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: Zero	TrCH1: Zero
>>>>rlc-Size			TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75	TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			TrCH1: all	TrCH1: all
>>semistaticTF-Information				
>>>tti	TrCH1: 40	TrCH1: 10	TrCH1- TrCH2: 20 TrCH3: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	Convolutional	Convolutional	Convolutional	Convolutional
>>>>codingRate	TrCH1: Third	TrCH1: Third	TrCH1- TrCH2: Third TrCH3: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 160	TrCH1: 160	TrCH1: 200 TrCH2: 190 TrCH3: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160
>>>crc-Size	TrCH1: 16	TrCH1: 16	TrCH1: 12 TrCH2: 0 TrCH3: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Explicit <Only tf0 on TrCH1 is different and shown below>	Explicit <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS	DedicatedTransChTFS
>>>dynamicTF-information				

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>tf0/ tf0,1			TrCH1: (1x0)	TrCH1: (1x0)
>>>>rlcSize			BitMode	bitMode
>>>>>sizeType			TrCH1: type 1: 0	TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One	TrCH1: One
>>>>logicalChannelList			All	All
>>ULTrCH-Id	TrCH1: 1	TrCH1: 1	TrCH1: 1, TrCH2: 2, TrCH3: 3	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $5x10^{-2}$	TrCH1: $5x10^{-2}$	TrCH1: $7x10^{-3}$ TrCH2- TrCH3: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0)	(TF0)	(TF0, TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1)	(TF1)	(TF1, TF0, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Signalled	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	11	11	N/A	N/A
>>>>>>>>βd	15	15	N/A	N/A
>>>>>>>>referenceTFCId	N/A	N/A	0	0
>>>>>>TFCS 3			(TF2, TF1, TF0)	(TF2, TF1, TF1, TF0)
>>>>>>>ctfc			5	11
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 4			(TF0, TF0, TF1)	(TF0, TF0, TF0, TF1)
>>>>>>>ctfc			6	12
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>βc (FDD only)			N/A	N/A
>>>>>>>>βd			N/A	N/A
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 5			(TF1, TF0, TF1)	(TF1, TF0, TF0, TF1)
>>>>>>>ctfc			7	13
>>>>>>>gainFactorInformation			Computed	Computed
>>>>>>>>referenceTFCId			0	0
>>>>>>TFCS 6			(TF2, TF1, TF1)	(TF2, TF1, TF1, TF1)

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>>>>>ctfc			11	23
>>>>>>>gainFactorInformation			Signalled	Signalled
>>>>>>>>βc (FDD only)			11	11
>>>>>>>>βd			15	15
>>>>>>>>referenceTFCId			0	0
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	1	1	1	0.88
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	256	128	128	128
>>pilotBits	4	4	4	4
>>positionFixed	N/A	N/A	Fixed	Fixed
PhyCH INFORMATION 3.84 Mcps TDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-20~~0	~~-20~~0	~~-20~~0	~~-20~~0
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	4	4	16	16
>>puncturingLimit	1	0.92	0.52	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	4	4	16	16
>>>puncturingLimit	1	0.92	0.52	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD				
UL-DPCH-InfoPredef				
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	4	4	16	16
>>puncturingLimit	1	0.64	0.80	0.60
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated

Configuration	3.4 kbps signalling	13.6 kbps signalling	7.95 kbps speech + 3.4 kbps signalling	12.2 kbps speech + 3.4 kbps signalling
>>>tfci-Coding	4	4	16	16
>>>puncturingLimit	1	0.64	0.80	0.60
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
Ref 34.108	12	14	13	15
Default configuration identity	4	5	6	7
RB INFORMATION				
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE
rb-MappingInfo				
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5
>DL-logicalChannelMappingList				
>>Mapping option 1	One mapping option	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A
TrCH INFORMATION PER TrCH				
UL-AddReconfTransChInfoList				
>Uplink transport channel type	dch	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information				
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 1x640) TrCH2: (0x144, 1x144)	TrCH1: (0x640, 2x640) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576) TrCH2: (0x144, 1x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode
>>>>>sizeType	TrCH1: type 2, part1= 11, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 11, part2= 2 (640) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero,1, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one TrCH2: Zero, one	TrCH1: Zero, 2 (4) TrCH2: Zero, one	TrCH1: Zero, one, TrCH2: Zero, one
>>>>logicalChannelList	All	All	All	All
>>semiStaticTF-Information				
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 20 TrCH2: 40	TrCH1: 40 TrCH2: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third
>>>rateMatchingAttribute	TrCH1: 180 TrCH2: 160	TrCH1: 185 TrCH2: 160	TrCH1: 170 TrCH2: 160	TrCH1: 165 TrCH2: 160
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16
DL-AddReconfTransChInfoList				
>Downlink transport channel type	dch	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>tfs-SignallingMode	SameAsUL	SameAsUL	SameAsUL	SameAsUL
>>transportFormatSet				
>>>dynamicTF-information				
>>>>tf0/ tf0,1				
>>>>rlcSize				
>>>>>sizeType				
>>>>numberOfTbSizeList				
>>>>logicalChannelList				
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2
>dch-QualityTarget				
>>bler-QualityValue	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $2x10^{-3}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent
TrCH INFORMATION, COMMON				
ul-CommonTransChInfo				
>tfcs-ID (TDD only)	1	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete	Complete
>>>ctfcSize	Ctfc2Bit	Ctfc2Bit	Ctfc2Bit	Ctfc4Bit
>>>>TFCS representation	Addition	Addition	Addition	Addition
>>>>>TFCS list				
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)	(TF0, TF0)
>>>>>>>ctfc	0	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)	(TF1, TF0)
>>>>>>>ctfc	1	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF0, TF1)	(TF0, TF1)	(TF0, TF1)
>>>>>>>ctfc	2	2	2	2
>>>>>>>gainFactorInformation	Computed	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF1, TF1)	(TF1, TF1)	(TF1, TF1)
>>>>>>>ctfc	3	3	3	3
>>>>>>>gainFactorInformation	Computed	Signalled	Signalled	Signalled

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>>>>>>>>βc (FDD only)	N/A	8	8	11
>>>>>>>>βd	N/A	15	15	15
>>>>>>>>referenceTFCId	N/A	N/A	N/A	N/A
>>>>>>TFCS 5	(TF1, TF1)	N/A	N/A	
>>>>>>>ctfc	4			
>>>>>>>gainFactorInformation	Computed			
>>>>>>>>referenceTFCId	8			
>>>>>>TFCS 6	(TF2, TF1)	N/A	N/A	
>>>>>>>ctfc	5			
>>>>>>>gainFactorInformation	Signalled			
>>>>>>>>βc (FDD only)	8			
>>>>>>>>βd	15			
>>>>>>>>referenceTFCId	N/A			
>>>>>>TFCS 7				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 8				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 9				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>referenceTFCId				
>>>>>>TFCS 10				
>>>>>>>ctfc				
>>>>>>>gainFactorInformation				
>>>>>>>>βc (FDD only)				
>>>>>>>>βd				
>>>>>>>>referenceTFCId				
dl-CommonTransChInfo				
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD				
UL-DPCH-InfoPredef				
>ul-DPCH-PowerControlInfo				
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE	TRUE
>puncturingLimit	0.92	0.8	0.92	1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>spreadingFactor	64	64	32	128
>>pilotBits	8	8	8	8
>>positionFixed	Flexible	Flexible	Flexible	Flexible
PhyCH INFORMATION 3.84 Mcps TDD				
UL-DPCH-InfoPredef				

Configuration	28.8 kbps conv. CS- data + 3.4 kbps signalling	32 kbps conv. CS-data + 3.4 kbps signalling	64kbps conv. CS-data + 3.4 kbps signalling	14.4 kbps streaming CS-data + 3.4 kbps signalling
>ul-DPCH-PowerControlInfo				
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	8	8	8
>>puncturingLimit	0.44	0.8	0.56	0.8
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	8	8	8
>>>puncturingLimit	0.44	0.64	0.56	0.8
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD				
UL-DPCH-InfoPredef				
>commonTimeslotInfo				
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	8	8	8
>>puncturingLimit	0.64	0.60	0.64	1
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef				
>dl-DPCH-InfoCommon				
>>commonTimeslotInfo				
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	8	8	8
>>>puncturingLimit	0.64	0.60	0.64	0.88
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
Ref 34.108	16	17	1a
Default configuration identity	8	9	10
RB INFORMATION			
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7
rlc-InfoChoice	Rlc-info	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5-RB7: TM

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5: N/A	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5: N/A	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5: N/A	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5: TM	RB1: UM RB2- RB3: AM RB5- RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5: N/A	RB1: N/A RB2- RB3: as below RB5- RB7: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 100	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5: FALSE	RB1- RB3: N/A RB5- RB7: FALSE
rb-MappingInfo			
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch	Dch
>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
>>rlc-SizeList	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5: N/A	RB1- RB3: configured RB5- RB7: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5
>DL-logicalChannelMappingList			

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>Mapping option 1	One mapping option	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 2 RB5: 1	RB1- RB3: 2 RB5: 1	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH			
UL-AddReconfTransChInfoList			
>Uplink transport channel type	dch	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information			
>>>tf0/ tf0,1	TrCH1: (0x576, 1x576, 2x576) TrCH2: (0x144, 1x144)	TrCH1: (0x576, 1x576, 2x576, 3x576, 4x576) TrCH2: (0x144, 1x144)	TrCH1: (0x81) TrCH2: (0x 103 TrCH3: (0x 60) TrCH4: (0x144)
>>>>rlcSize	TrCH1: OctetMode TrCH2:BitMode	TrCH1: OctetMode TrCH2:BitMode	BitMode
>>>>>sizeType	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 2, part1= 9, part2= 2 (576) TrCH2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 81 TrCH2: type 1: 103 TrCH3: type 1: 60 TrCH4: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1: Zero, one, 2 TrCH2: Zero, one	TrCH1: Zero, one, 2, 3, 4 TrCH2: Zero, one	TrCH1-4: Zero
>>>>logicalChannelList	All	All	All
>>>tf 1			TrCH1: (1x39) TrCH2: (1x53) TrCH3: (1x60) TrCH4: (1x144)
>>>>numberOfTransportBlocks			TrCH1-3: One
>>>>rlc-Size			TrCH1-3: BitMode
>>>>>sizeType			TrCH1: 1: 39 TrCH2: 1: 53 TrCH3: 1: 60
>>>>numberOfTbSizeList			TrCH1-3: One
>>>>logicalChannelList			TrCH1-3: all
>>>tf 2			TrCH1: (1x42) TrCH2: (1x63) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 42 TrCH2: type 1: 63
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>tf 3			TrCH1: (1x55) TrCH2: (1x84) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: Zero
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 55 TrCH2: type 1: 84
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 4			TrCH1: (1x75) TrCH2: (1x103) TrCH3- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1-2: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 75 TrCH2: type 1: 103
>>>>numberOfTbSizeList			TrCH1-2: One
>>>>logicalChannelList			TrCH1: all
>>>tf 5			TrCH1: (1x81) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks			TrCH1: One
>>>>rlc-Size			TrCH1: BitMode
>>>>>sizeType			TrCH1: type 1: 81
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			TrCH1: all
>>semiStaticTF-Information			
>>>tti	TrCH1: 40 TrCH2: 40	TrCH1: 40 TrCH2: 40	TrCH1- TrCH3: 20 TrCH4: 40
>>>channelCodingType	TrCH1: Turbo TrCH2: Convolutional	TrCH1: Turbo TrCH2: Convolutional	Convolutional
>>>>codingRate	TrCH1: N/A TrCH2: Third	TrCH1: N/A TrCH2: Third	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third
>>>rateMatchingAttribute	TrCH1: 155 TrCH2: 160	TrCH1: 145 TrCH2: 160	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160
>>>crc-Size	TrCH1: 16 TrCH2: 16	TrCH1: 16 TrCH2: 16	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16
DL-AddReconfTransChInfoList			
>Downlink transport channel type	dch	dch	dch
>dl-TransportChannelIdentity (should be as for UL)	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>tfs-SignallingMode	SameAsUL	SameAsUL	Independent <Only tf0 on TrCH1 is different and shown below>
>>transportFormatSet			DedicatedTransChTFS
>>>dynamicTF-information			

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>tf0/ tf0,1			TrCH1: (1x0)
>>>>rlcSize			bitMode
>>>>>sizeType			TrCH1: type 1: 0
>>>>numberOfTbSizeList			TrCH1: One
>>>>logicalChannelList			All
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4
>dch-QualityTarget			
>>bler-QualityValue	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $1x10^{-2}$ TrCH2: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON			
ul-CommonTransChInfo			
>tfcs-ID (TDD only)	1	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE	FALSE
>tfc-Subset	Absent, not required	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete	Complete
>>>ctfcSize	Ctfc4Bit	Ctfc4Bit	Ctfc8Bit
>>>>TFCS representation	Addition	Addition	Addition
>>>>>TFCS list			
>>>>>>TFCS 1	(TF0, TF0)	(TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0	0
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 2	(TF1, TF0)	(TF1, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1	1
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 3	(TF2, TF0)	(TF2, TF0)	(TF2, TF1, TF0, TF0)
>>>>>>>ctfc	2	2	8
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 4	(TF0, TF1)	(TF3, TF0)	(TF3, TF2, TF0, TF0)
>>>>>>>ctfc	3	3	15
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A	N/A
>>>>>>>>βd	N/A	N/A	N/A
>>>>>>>>referenceTFCId	0	0	0
>>>>>>TFCS 5	(TF1, TF1)	(TF4, TF0)	(TF4, TF3, TF0, TF0)
>>>>>>>ctfc	4	4	22
>>>>>>>gainFactorInformation	Computed	Computed	Computed
>>>>>>>>referenceTFCId	0	0	0

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>>>>>TFCS 6	(TF2, TF1)	(TF0, TF1)	(TF5, TF4, TF1, TF0)
>>>>>>>ctfc	5	5	59
>>>>>>>gainFactorInformation	Signalled	Computed	Computed
>>>>>>>>βc (FDD only)	8	N/A	N/A
>>>>>>>>βd	15	N/A	N/A
>>>>>>>>referenceTFCId	N/A	0	0
>>>>>>TFCS 7		(TF1, TF1)	(TF0,TF0,TF0,TF1)
>>>>>>>ctfc		6	60
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 8		(TF2, TF1)	(TF1,TF0,TF0,TF1)
>>>>>>>ctfc		7	61
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 9		(TF3, TF1)	(TF2,TF1,TF0,TF1)
>>>>>>>ctfc		8	68
>>>>>>>gainFactorInformation		Computed	Computed
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 10		(TF4, TF1)	(TF3,TF2,TF0,TF1)
>>>>>>>ctfc		9	75
>>>>>>>gainFactorInformation		Signalled	Computed
>>>>>>>>βc (FDD only)		8	N/A
>>>>>>>>βd		15	N/A
>>>>>>>>referenceTFCId		0	0
>>>>>>TFCS 11			(TF4,TF3,TF0,TF1)
>>>>>>>ctfc			82
>>>>>>>gainFactorInformation			Computed
>>>>>>>>referenceTFCId			0
>>>>>>TFCS 12			(TF5,TF4,TF1,TF1)
>>>>>>>ctfc			119
>>>>>>>gainFactorInformation			Signalled
>>>>>>>>βc (FDD only)			11
>>>>>>>>βd			15
>>>>>>>>referenceTFCId			0
dl-CommonTransChInfo			
>tfcs-SignallingMode	Same as UL	Same as UL	Same as UL
PhyCH INFORMATION FDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>powerControlAlgorithm	Algorithm 1	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1	1
>tfci-Existence	TRUE	TRUE	TRUE
>puncturingLimit	1	1	0.88
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>spreadingFactor	64	32	128
>>pilotBits	8	8	4

Configuration	28.8 kbps streaming CS-data + 3.4 kbps signalling	57.6 kbps streaming CS-data + 3.4 kbps signalling	12.2 kbps speech(multimode) + 3.4 kbps signalling
>>positionFixed	Flexible	Flexible	Fixed
PhyCH INFORMATION 3.84 Mcps TDD			
UL-DPCH-InfoPredef			
>ul-DPCH-PowerControlInfo			
>>dpch-ConstantValue	~~-~~200	~~-~~200	~~-~~200
>commonTimeslotInfo			
>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>tfci-Coding	16	16	16
>>puncturingLimit	0.44	0.48	0.88
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>commonTimeslotInfo			
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	16	16
>>>puncturingLimit	0.44	0.48	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD			
UL-DPCH-InfoPredef			
>commonTimeslotInfo			
>>secondInterleavingMode	frameRelated	frameRelated	
>>tfci-Coding	16	16	
>>puncturingLimit	0.64	0.72	
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	
DL-CommonInformationPredef			
>dl-DPCH-InfoCommon			
>>commonTimeslotInfo			
>>>secondInterleavingMode	frameRelated	frameRelated	frameRelated
>>>tfci-Coding	16	16	16
>>>puncturingLimit	0.64	0.72	0.92
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1	repetitionPeriod1

Configuration	10.2/6.7/5.9/4.75 kbps speech + 3.4 kbps signalling	7.4/6.7/5.9/4.75 kbps speech + 3.4 kbps signalling
Ref 34.108	N/A	N/A
Default configuration identity	11	12
RB INFORMATION		
rb-Identity	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6, RB7: 7	RB1: 1, RB2: 2, RB3: 3, RB5: 5, RB6: 6
rlc-InfoChoice	Rlc-info	Rlc-info
>ul-RLC-Mode	RB1: UM RB2- RB3: AM RB5-RB7: TM	RB1: UM RB2- RB3: AM RB5-RB6: TM
>>transmissionRLC-DiscardMode	RB1: N/A RB2- RB3: NoDiscard RB5- RB7: N/A	RB1: N/A RB2- RB3: NoDiscard RB5- RB6: N/A
>>>maxDat	RB1: N/A RB2- RB3: 15 RB5- RB7: N/A	RB1: N/A RB2- RB3: 15 RB5- RB6: N/A
>>transmissionWindowSize	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A	RB1: N/A RB2- RB3: 128 RB5- RB6: N/A
>>timerRST	RB1: N/A RB2- RB3: 300 RB5- RB7: N/A	RB1: N/A RB2- RB3: 300 RB5- RB6: N/A
>>max-RST	RB1: N/A RB2- RB3: 1 RB5- RB7: N/A	RB1: N/A RB2- RB3: 1 RB5- RB6: N/A
>>pollingInfo	RB1: N/A RB2- RB3: as below RB5- RB7: N/A	RB1: N/A RB2- RB3: as below RB5- RB6: N/A
>>>lastTransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>lastRetransmissionPDU-Poll	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerPollPeriodic	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A RB5- RB7: FALSE	RB1- RB3: N/A RB5- RB6: FALSE
>dl-RLC-Mode	RB1: UM RB2- RB3: AM RB5- RB7: TM RB8: TM	RB1: UM RB2- RB3: AM RB5- RB6: TM RB7: TM
>>inSequenceDelivery	RB1: N/A RB2- RB3: TRUE RB5- RB8: N/A	RB1: N/A RB2- RB3: TRUE RB5- RB7: N/A
>>receivingWindowSize	RB1: N/A RB2- RB3: 128 RB5- RB8: N/A	RB1: N/A RB2- RB3: 128 RB5- RB7: N/A
>>dl-RLC-StatusInfo	RB1: N/A RB2- RB3: as below RB5- RB7: N/A	RB1: N/A RB2- RB3: as below RB5- RB6: N/A
>>>timerStatusProhibit	RB2- RB3: 100	RB2- RB3: 100
>>>missingPDU-Indicator	RB2- RB3: FALSE	RB2- RB3: FALSE
>>>timerStatusPeriodic	RB2- RB3: 100	RB2- RB3: 100
>>segmentationIndication	RB1- RB3: N/A RB5- RB7: FALSE	RB1- RB3: N/A RB5- RB6: FALSE
rb-MappingInfo		
>UL-LogicalChannelMappings	OneLogicalChannel	OneLogicalChannel
>>ul-TransportChannelType	Dch	Dch

>>>transportChannelIdentity	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3,	RB1- RB3: 3 RB5: 1, RB6: 2
>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: N/A
>>rlc-SizeList	RB1- RB3: configured RB5- RB7: N/A	RB1- RB3: configured RB5- RB6: N/A
>>mac-LogicalChannelPriority	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: 5	RB1: 1, RB2: 2, RB3: 3 RB5- RB6: 5
>DL-logicalChannelMappingList		
>>Mapping option 1	One mapping option	One mapping option
>>>dl-TransportChannelType	Dch	Dch
>>>>transportChannelIdentity	RB1- RB3: 4 RB5: 1, RB6: 2, RB7: 3, RB8: 5	RB1- RB3: 3 RB5: 1, RB6: 2, RB7:4
>>>logicalChannelIdentity	RB1: 1, RB2: 2, RB3: 3 RB5- RB8: N/A	RB1: 1, RB2: 2, RB3: 3 RB5- RB7: N/A
TrCH INFORMATION PER TrCH		
UL-AddReconfTransChInfoList		
>Uplink transport channel type	dch	dch
>transportChannelIdentity	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4	TrCH1: 1, TrCH2: 2, TrCH3: 3
>transportFormatSet	DedicatedTransChTFS	DedicatedTransChTFS
>>dynamicTF-information		
>>>tf0/ tf0,1	TrCH1: (0x65) TrCH2: (0x 99) TrCH3: (0x 40, 1x40) TrCH4: (0x144, 1x144)	TrCH1: (0x61) TrCH2: (0x 87) TrCH3: (0x 144, 1x144)
>>>>rlcSize	BitMode	BitMode
>>>>>sizeType	TrCH1: type 1: 65 TrCH2: type 1: 99 TrCH3: type 1: 40 TrCH4: 2: type 2, part1= 2, part2= 0 (144)	TrCH1: type 1: 61 TrCH2: type 1: 87 TrCH3: 2: type 2, part1= 2, part2= 0 (144)
>>>>numberOfTbSizeList	TrCH1-2: Zero TrCH3-4: Zero, one	TrCH1-2: Zero TrCH3: Zero, one
>>>>logicalChannelList	All	All
>>>tf 1	TrCH1: (1x39) TrCH2: (1x 53) TrCH3- TrCH4: N/A	TrCH1: (1x39) TrCH2: (1x53) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>rlc-Size	TrCH1-2: BitMode	TrCH1-2: BitMode
>>>>>sizeType	TrCH1: 1: 39 TrCH2: 1: 53	TrCH1: 1: 39 TrCH1: 1: 53
>>>>numberOfTbSizeList	TrCH1-2: One	TrCH1-2: One
>>>>logicalChannelList	TrCH1: all	TrCH1: all
>>>tf 2	TrCH1: (1x42) TrCH2: (1x63) TrCH3- TrCH4: N/A	TrCH1: (1x42) TrCH2: (1x63) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode

>>>>>sizeType	TrCH1: type 1: 42 TrCH2: type 1: 63	TrCH1: type 1: 42 TrCH2: type 1: 63
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 3	TrCH1: (1x55) TrCH2: (1x76) TrCH3- TrCH4: N/A	TrCH1: (1x55) TrCH2: (1x76) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 55 TrCH2: type 1: 76	TrCH1: type 1: 55 TrCH2: type 1: 76
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 4	TrCH1: (1x58) TrCH2: (1x99) TrCH3- TrCH4: N/A	TrCH1: (1x58) TrCH2: (1x87) TrCH3: N/A
>>>>numberOfTransportBlocks	TrCH1: One TrCh2: One	TrCH1: One TrCh2: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 58 TrCH2: type 1: 99	TrCH1: type 1: 58 TrCH2: type 1: 87
>>>>numberOfTbSizeList	TrCH1: One TrCH2: One	TrCH1: One TrCH2: One
>>>>logicalChannelList	TrCH1: all TrCH2: all	TrCH1: all TrCH2: all
>>>tf 5	TrCH1: (1x65) TrCH2- TrCH4: N/A	TrCH1: (1x61) TrCH2- TrCH4: N/A
>>>>numberOfTransportBlocks	TrCH1: One	TrCH1: One
>>>>rlc-Size	TrCH1: BitMode	TrCH1: BitMode
>>>>>sizeType	TrCH1: type 1: 42	TrCH1: type 1: 42
>>>>numberOfTbSizeList	TrCH1: One	TrCH1: One
>>>>logicalChannelList	TrCH1: all	TrCH1: all
>>semistaticTF-Information		
>>>tti	TrCH1- TrCH3: 20 TrCH4: 40	TrCH1- TrCH2: 20 TrCH3: 40
>>>channelCodingType	Convolutional	Convolutional
>>>>codingRate	TrCH1- TrCH2: Third TrCH3: Half TrCH4: Third	TrCH1- TrCH2: Third TrCH3: Third
>>>rateMatchingAttribute	TrCH1: 200 TrCH2: 190 TrCH3: 235 TrCH4: 160	TrCH1: 200 TrCH2: 190 TrCH3: 160
>>>crc-Size	TrCH1: 12 TrCH2- TrCH3: 0 TrCH4: 16	TrCH1: 12 TrCH2: 0 TrCH3: 16
DL-AddReconfTransChInfoList		
>Downlink transport channel type	dch	dch
>dl-TransportChannelIdentity		
>tfs-SignallingMode	Independent <Only tf0 on TrCH1 and tf0/tf1 on TrCH5 are different and shown below>	Independent <Only tf0 on TrCH1 and tf0/tf1 on TrCH4 are different and shown below>
>>transportFormatSet		
>>>dynamicTF-information		

>>>>tf0/ tf0,1	TrCH1: (1x0) TrCH5: (0x7, 1x7)	TrCH1: (1x0) TrCH4: (0x7, 1x7)
>>>>rlcSize	BitMode	bitMode
>>>>>sizeType	TrCH1: type 1: 0 TrCH5: type 1: 7	TrCH1: type 1: 0 TrCH4: type 1: 7
>>>>numberOfTbSizeList	TrCH1: One TrCH5: Zero, one	TrCH1: One TrCH4: Zero, one
>>>>logicalChannelList	All	All
>>>semistaticTF-Information	same as UL except for TrCH5	same as DL except for TrCH4
>>>>tti	TrCH5: 20	TrCH4: 20
>>>>channelCodingType	Convolutional	Convolutional
>>>>>codingRate	TrCH5: Third	TrCH4: Third
>>>>rateMatchingAttribute	TrCH5: 200	TrCH4: 200
>>>>crc-Size	TrCH5: 12	TrCH4: 12
>>ULTrCH-Id	TrCH1: 1, TrCH2: 2, TrCH3: 3, TrCH4: 4,	TrCH1: 1, TrCH2: 2, TrCH3: 3
>dch-QualityTarget		
>>bler-QualityValue	TrCH1: $7x10^{-3}$ TrCH2- TrCH5: Absent	TrCH1: $7x10^{-3}$ TrCH2- TrCH4: Absent
TrCH INFORMATION, COMMON		
ul-CommonTransChInfo		
>tfcs-ID (TDD only)	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE
> tfc-Subset	Absent, not required	Absent, not required
>ul-TFCS	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete
>>>ctfcSize	Ctfc6Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition
>>>>>TFC list		
>>>>>>TFC 1	(TF0, TF0, TF0, TF0)	(TF0, TF0, TF0)
>>>>>>>ctfc	0	0
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 2	(TF1, TF0, TF0, TF0)	(TF1, TF0, TF0)
>>>>>>>ctfc	1	1
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)	N/A	N/A
>>>>>>>>βd	N/A	N/A
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 3	(TF2, TF1, TF0, TF0)	(TF2, TF1, TF0)
>>>>>>>ctfc	8	8
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 4	(TF3, TF2, TF0, TF0)	(TF3, TF2, TF0)
>>>>>>>ctfc	15	15
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0

>>>>>>TFC 5	(TF4, TF3, TF0, TF0)	(TF4, TF3, TF0)
>>>>>>>ctfc	22	22
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 6	(TF5, TF4, TF1, TF0)	(TF5, TF4, TF0)
>>>>>>>ctfc	59	29
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 7	(TF0, TF0, TF0, TF1)	(TF0, TF0, TF1)
>>>>>>>ctfc	60	30
>>>>>>>gainFactorInformation	Computed	Computed
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 8	(TF1, TF0, TF0, TF1)	(TF1, TF0, TF1)
>>>>>>>ctfc	61	31
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 9	(TF2, TF1, TF0, TF1)	(TF2, TF1, TF1)
>>>>>>>ctfc	68	38
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>referenceTFCId		
>>>>>>TFC 10	(TF3, TF2, TF0, TF1)	(TF3, TF2, TF1)
>>>>>>>ctfc	75	45
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>βc (FDD only)		
>>>>>>>>βd		
>>>>>>>>referenceTFCId	0	0
>>>>>>TFC 11	(TF4, TF3, TF0, TF1)	(TF4, TF3, TF1)
>>>>>>>ctfc	82	52
>>>>>>>gainFactorInformation	computed	computed
>>>>>>>>referenceTFCId		
>>>>>>TFC 12	(TF5, TF4, TF1, TF1)	(TF5, TF4, TF1)
>>>>>>>ctfc	97	59
>>>>>>>gainFactorInformation	signalled	signalled
>>>>>>>>βc (FDD only)	11	11
>>>>>>>>βd	15	15
>>>>>>>>referenceTFCId		
> TFC subset list		
>>TFC subset 1	(speech rate 10.2)	(speech rate 7.4)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC6, TFC12)	(TFC1, TFC2, TFC7, TFC8, TFC6, TFC12)
>>TFC subset 2	(speech rate 6.7)	(speech rate 6.7)

>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC5, TFC11)	(TFC1, TFC2, TFC7, TFC8, TFC5, TFC11)
>>TFC subset 3	(speech rate 5.9)	(speech rate 5.9)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC4, TFC10)	(TFC1, TFC2, TFC7, TFC8, TFC4, TFC10)
>>TFC subset 4	(speech rate 4.75)	(speech rate 4.75)
>>> Allowed transport format combination list	(TFC1, TFC2, TFC7, TFC8, TFC3, TFC9)	(TFC1, TFC2, TFC7, TFC8, TFC3, TFC9)
dl-CommonTransChInfo		
>tfcs-SignallingMode	Independent	Independent
ul-CommonTransChInfo		
>tfcs-ID (TDD only)	1	1
>sharedChannelIndicator (TDD only)	FALSE	FALSE
> tfc-Subset	Absent, not required	Absent, not required
>dl-TFCS	Normal TFCI signalling	Normal TFCI signalling
>>explicitTFCS-ConfigurationMode	Complete	Complete
>>>ctfcSize	Ctfc6Bit	Ctfc6Bit
>>>>TFCS representation	Addition	Addition
>>>>>TFCS list		
>>>>>>TFC 1	(TF0, TF0, TF0, TF0, TF0)	(TF0, TF0, TF0, TF0)
>>>>>>>ctfc	0	0
>>>>>>TFC 2	(TF1, TF0, TF0, TF0, TF0)	(TF1, TF0, TF0, TF0)
>>>>>>>ctfc	1	1
>>>>>>TFC 3	(TF2, TF1, TF0, TF0, TF0)	(TF2, TF1, TF0, TF0)
>>>>>>>ctfc	8	8
>>>>>>TFC 4	(TF3, TF2, TF0, TF0, TF0)	(TF3, TF2, TF0, TF0)
>>>>>>>ctfc	15	15
>>>>>>TFC 5	(TF4, TF3, TF0, TF0, TF0)	(TF4, TF3, TF0, TF0)
>>>>>>>ctfc	22	22
>>>>>>TFC 6	(TF5, TF4, TF1, TF0, TF0)	(TF5, TF4, TF0, TF0)
>>>>>>>ctfc	59	29
>>>>>>TFC 7	(TF0, TF0, TF0, TF1, TF0)	(TF0, TF0, TF1, TF0)
>>>>>>>ctfc	60	30
>>>>>>TFC 8	(TF1, TF0, TF0, TF1, TF0)	(TF1, TF0, TF1, TF0)
>>>>>>>ctfc	61	31
>>>>>>TFC 9	(TF2, TF1, TF0, TF1, TF0)	(TF2, TF1, TF1, TF0)
>>>>>>>ctfc	68	37
>>>>>>TFC 10	(TF3, TF2, TF0, TF1, TF0)	(TF3, TF2, TF1, TF0)
>>>>>>>ctfc	75	55
>>>>>>TFC 11	(TF4, TF3, TF0, TF1, TF0)	(TF4, TF3, TF1, TF0)
>>>>>>>ctfc	82	52
>>>>>>TFC 12	(TF5, TF4, TF1, TF1, TF0)	(TF5, TF4, TF1, TF0)
>>>>>>>ctfc	119	59
>>>>>>TFC 13	(TF0, TF0, TF0, TF0, TF1)	(TF0, TF0, TF0, TF1)
>>>>>>>ctfc	120	60

>>>>>>TFC 14	(TF1, TF0, TF0, TF0, TF1)	(TF1, TF0, TF0, TF1)
>>>>>>>ctfc	121	61
>>>>>>TFC 15	(TF2, TF1, TF0, TF0, TF1)	(TF2, TF1, TF0, TF1)
>>>>>>>ctfc	128	68
>>>>>>TFC 16	(TF3, TF2, TF0, TF0, TF1)	(TF3, TF2, TF0, TF1)
>>>>>>>ctfc	135	75
>>>>>>TFC 17	(TF4, TF3, TF0, TF0, TF1)	(TF4, TF3, TF0, TF1)
>>>>>>>ctfc	152	82
>>>>>>TFC 18	(TF5, TF4, TF1, TF0, TF1)	(TF5, TF4, TF0, TF1)
>>>>>>>ctfc	189	89
>>>>>>TFC 19	(TF0, TF0, TF0, TF1, TF1)	(TF0, TF0, TF1, TF1)
>>>>>>>ctfc	180	90
>>>>>>TFC 20	(TF1, TF0, TF0, TF1, TF1)	(TF1, TF0, TF1, TF1)
>>>>>>>ctfc	181	91
>>>>>>TFC 21	(TF2, TF1, TF0, TF1, TF1)	(TF2, TF1, TF1, TF1)
>>>>>>>ctfc	188	98
>>>>>>TFC 22	(TF3, TF2, TF0, TF1, TF1)	(TF3, TF2, TF1, TF1)
>>>>>>>ctfc	195	105
>>>>>>TFC 23	(TF4, TF3, TF0, TF1, TF1)	(TF4, TF3, TF1, TF1)
>>>>>>>ctfc	239	112
>>>>>>TFC 24	(TF5, TF4, TF1, TF1, TF1)	(TF5, TF4, TF1, TF1)
>>>>>>>ctfc	218	119
PhyCH INFORMATION FDD		
UL-DPCH-InfoPredef		
>ul-DPCH-PowerControlInfo		
>>powerControlAlgorithm	Algorithm 1	Algorithm 1
>>>tpcStepSize	1	1
>tfci-Existence	TRUE	TRUE
>puncturingLimit	0.88	0.88
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		
>>spreadingFactor	128	128
>>pilotBits	4	4
>>positionFixed	Fixed	Fixed
PhyCH INFORMATION 3.84 Mcps TDD		
UL-DPCH-InfoPredef		
>ul-DPCH-PowerControlInfo		
>>dpch-ConstantValue	~~-~~200	~~-~~200
>commonTimeslotInfo		
>>secondInterleavingMode	frameRelated	frameRelated
>>tfci-Coding	16	16
>>puncturingLimit	0.60	0.60
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		
>>commonTimeslotInfo		

>>>secondInterleavingMode	frameRelated	frameRelated
>>>tfci-Coding	16	16
>>>puncturingLimit	0.60	0.60
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
PhyCH INFORMATION 1.28 Mcps TDD		
UL-DPCH-InfoPredef		
>commonTimeslotInfo		
>>secondInterleavingMode	frame Related	frame Related
>>tfci-Coding	16	16
>>puncturingLimit	0.64	0.64
>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1
DL-CommonInformationPredef		
>dl-DPCH-InfoCommon		
>>commonTimeslotInfo		
>>>secondInterleavingMode	frame Related	frame Related
>>>tfci-Coding	16	16
>>>puncturingLimit	0.64	0.64
>>>repetitionPeriodAndLength	repetitionPeriod1	repetitionPeriod1

3GPP TSG-RAN WG2 meeting #30 ***R2-021728***
Torino, Italy, 24th - 27th June 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1541** ⌘ **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:	⌘	Handling of UE internal measurement information in broadcast
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	24/06/2002
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:	⌘	The handling of the "UE internal measurement system information" IE which the UE may receive in SIB11/SIB12 is currently unclear in the specifications.
Summary of change:	⌘	It is specified that the UE shall ignore this information. **Isolated Impact Change Analysis.** Impacted functionality: Incomplete IE's in broadcast Clarification: Removal of functionality that is currently not completely specified. Will not impact UE's acting in accordance with this clarification, might impact UE's otherwise. Since there is no real sensible usage of this information, UE implementations are expected already today to ignore this information.
Consequences if not approved:	⌘	Handling of UE internal measurement system information received by the UE in SIB11/12 will remain unclear.

Clauses affected:	⌘	10.3.7.47;10.3.7.81; 11.3

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:

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.

10.3.7.47 Measurement control system information

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q.
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	
~~UE Internal measurement system information~~	~~OP~~		~~UE Internal measurement system information 10.3.7.81~~	

10.3.7.81 ~~UE internal measurement system information~~Void

~~Information Element/Group name~~	~~Need~~	~~Multi~~	~~Type and reference~~	~~Semantics description~~
~~UE internal measurement identity~~	~~MD~~		~~Measurement identity 10.3.7.48~~	~~The UE internal measurement identity has default value 5.~~
~~UE internal measurement quantity~~	~~MP~~		~~UE internal measurement quantity 10.3.7.79~~	

11.3 Information element definitions

```
// some parts are ommitted.

MeasurementControlSysInfo ::=       SEQUENCE {
    use-of-HCS                          CHOICE  {
        hcs-not-used                    SEQUENCE    {
            cellSelectQualityMeasure    CHOICE  {
                cpich-RSCP              SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-RSCP
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-RSCP    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-ECN0    OPTIONAL
                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo-B        OPTIONAL
        },
        hcs-used                        SEQUENCE    {
            cellSelectQualityMeasure    CHOICE  {
                cpich-RSCP              SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo      OPTIONAL
        }
    },

    trafficVolumeMeasSysInfo            TrafficVolumeMeasSysInfo            OPTIONAL,
    -- dummy is not used in this version of specification and it shall be ignored by the UE.
    dummy ue-InternalMeasurementSysInfo     UE-InternalMeasurementSysInfo       OPTIONAL
}
```

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Torino, Italy, 24th - 27th June 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1542** ⌘ **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:	⌘	Handling of UE internal measurement information in broadcast
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	24/06/2002
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)*
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:	⌘	The handling of the "UE internal measurement system information" IE which the UE may receive in SIB11/SIB12 is currently unclear in the specifications.
Summary of change:	⌘	It is specified that the UE shall ignore this information. **Isolated Impact Change Analysis.** Impacted functionality: Incomplete IE's in broadcast Clarification: Removal of functionality that is currently not completely specified. Will not impact UE's acting in accordance with this clarification, might impact UE's otherwise. Since there is no real sensible usage of this information, UE implementations are expected already today to ignore this information.
Consequences if not approved:	⌘	Handling of UE internal measurement system information received by the UE in SIB11/12 will remain unclear.

Clauses affected:	⌘	10.3.7.47;10.3.7.81; 11.3

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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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.

10.3.7.47 Measurement control system information

Information element/Group name	Need	Multi	Type and reference	Semantics description
Use of HCS	MP		Enumerated (Not used, used)	Indicates if the serving cell belongs to a HCS structure
Cell selection and reselection quality measure	MP		Enumerated (CPICH Ec/N0, CPICH RSCP)	Choice of measurement (CPICH Ec/N0 or CPICH RSCP) to use as quality measure Q.
Intra-frequency measurement system information	OP		Intra-frequency measurement system information 10.3.7.40	
Inter-frequency measurement system information	OP		Inter-frequency measurement system information 10.3.7.20	
Inter-RAT measurement system information	OP		Inter-RAT measurement system information 10.3.7.31	
Traffic volume measurement system information	OP		Traffic volume measurement system information 10.3.7.73	
~~UE Internal measurement system information~~	~~OP~~		~~UE Internal measurement system information 10.3.7.81~~	

10.3.7.81 ~~UE internal measurement system information~~Void

~~Information Element/Group name~~	~~Need~~	~~Multi~~	~~Type and reference~~	~~Semantics description~~
~~UE internal measurement identity~~	~~MD~~		~~Measurement identity 10.3.7.48~~	~~The UE internal measurement identity has default value 5.~~
~~UE internal measurement quantity~~	~~MP~~		~~UE internal measurement quantity 10.3.7.79~~	

11.3 Information element definitions

```
// some parts are ommitted.

MeasurementControlSysInfo ::=       SEQUENCE {
    use-of-HCS                          CHOICE  {
        hcs-not-used                    SEQUENCE    {
            cellSelectQualityMeasure    CHOICE  {
                cpich-RSCP              SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-RSCP
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-RSCP    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-ECN0    OPTIONAL
                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo-B        OPTIONAL
        },
        hcs-used                        SEQUENCE    {
            cellSelectQualityMeasure    CHOICE  {
                cpich-RSCP              SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo      OPTIONAL
        }
    },

    trafficVolumeMeasSysInfo            TrafficVolumeMeasSysInfo            OPTIONAL,
    -- dummy is not used in this version of specification and it shall be ignored by the UE.
    dummy ue-InternalMeasurementSysInfo     UE-InternalMeasurementSysInfo       OPTIONAL
}
```

3GPP TSG-RAN WG2 meeting #30 ***R2-021730***
Torino, Italy, 24th - 27th June 2002

CR-Form-v7

CHANGE REQUEST

⌘ **25.331** **CR** **1543** ⌘ **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:	⌘	Handling of UE internal measurement information in broadcast
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	24/06/2002
Category:	⌘	**A**
Release:	⌘	Rel-5

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Other specs affected: ⌘

Y	N	
	X	Other core specifications
	X	Test specifications
	X	O&M Specifications

⌘

Other comments: ⌘

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                cpich-RSCP              SEQUENCE    {
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    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-RSCP    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-ECN0    OPTIONAL
                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo-B        OPTIONAL
        },
        hcs-used                        SEQUENCE    {
            cellSelectQualityMeasure    CHOICE  {
                cpich-RSCP              SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-RSCP
    OPTIONAL
                },
                cpich-Ec-N0             SEQUENCE    {
                    intraFreqMeasurementSysInfo         IntraFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL,
                    interFreqMeasurementSysInfo         InterFreqMeasurementSysInfo-HCS-ECN0
    OPTIONAL                }
            },
            interRATMeasurementSysInfo      InterRATMeasurementSysInfo      OPTIONAL
        }
    },

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