TSG RAN Meeting #19 **RP-030027**
Birmingham, United Kingdom, 11 - 14 March, 2003

Title **CRs (R'99 and Rel-4/Rel-5/Rel-6 Category A) to TS 25.133**
Source **TSG RAN WG4**
Agenda Item **8.4.3**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020012	25.133	510		F	R99	3.12.0	Correction of interruption time in FDD/TDD Hard Handover	TEI
R4-020013	25.133	511		A	Rel-4	4.7.0	Correction of interruption time in FDD/TDD Hard Handover	TEI
R4-020014	25.133	512		A	Rel-5	5.5.0	Correction of interruption time in FDD/TDD Hard Handover	TEI
R4-020015	25.133	513		A	Rel-6	6.0.0	Correction of interruption time in FDD/TDD Hard Handover	TEI
R4-020021	25.133	514		F	R99	3.12.0	Applicability of Timer T-reselection for 2G cell reselection.	TEI
R4-020022	25.133	515		A	Rel-4	4.7.0	Applicability of Timer T-reselection for 2G cell reselection.	TEI
R4-020023	25.133	516		A	Rel-5	5.5.0	Applicability of Timer T-reselection for 2G cell reselection.	TEI
R4-020024	25.133	517		A	Rel-6	6.0.0	Applicability of Timer T-reselection for 2G cell reselection.	TEI
R4-020154	25.133	528		F	R99	3.12.0	Correction of Hard HO test case	TEI
R4-020155	25.133	529		A	Rel-4	4.7.0	Correction of Hard HO test case	TEI
R4-020076	25.133	521		A	Rel-5	5.5.0	Correction of Hard HO test case	TEI
R4-020077	25.133	522		A	Rel-6	6.0.0	Correction of Hard HO test case	TEI
R4-020248	25.133	544		F	R99	3.12.0	Constant Value in Random Access Test requirements	TEI
R4-020249	25.133	545		A	Rel-4	4.7.0	Constant Value in Random Access Test requirements	TEI
R4-020250	25.133	546		A	Rel-5	5.5.0	Constant Value in Random Access Test requirements	TEI
R4-020251	25.133	547		A	Rel-6	6.0.0	Constant Value in Random Access Test requirements	TEI

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030012**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **510** ⌘ **rev** ⌘ Current version: **3.12.0** ⌘

*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 interruption time in FDD/TDD Hard Handover
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In this test case, the delay uncertainty of the TTI of the uplink DCH is not taken into consideration. The timing of CFN between cell1 and cell2 is not always aligned in this test case described in TS25.123 A5.1. If the timing of CFN between cell1 and cell2 isn't aligned, uplink DCCH may not be able to be transmitted within the given test requirement. The transmission delay of a maximum TTI of the uplink DCH occurs to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell. This delay isn't taken into consideration with the interruption time. The transmission delay to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell is added to the interruption time. .
Summary of change:	⌘	To add the maximum TTI of the uplink DCH to the interruption time To define DCH parameter as UL Reference Measurement Channel 12.2 kbps. This changes are made for FDD/TDD requirements and corresponding test cases.
Consequences if not approved:	⌘	Even “Good UE” may not pass the test. The UE may not transmit uplink DCH at the uplink TTI boundary.

Clauses affected:	⌘	5.3, A.5				
Other specs affected:	⌘	**Y**	**N**		⌘	
			X	Other core specifications		
		X		Test specifications		34.121
			X	O&M Specifications		

Other comments:	⌘	Equivalent CRs in other Releases: CR511 cat. A to 25.133 v4.7.0, CR512 cat. A to 25.133 v5.5.0, CR513 cat. A to 25.133 v6.0.0

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3 FDD/TDD Handover

5.3.1 Introduction

The purpose of FDD/TDD handover is to change the radio access mode from FDD to TDD. The FDD/TDD handover procedure is initiated from UTRAN with a RRC message that implies a hard handover as described in [16].

5.3.2 Requirements

The requirements in this section shall apply to UE supporting FDD and TDD.

5.3.2.1 FDD/TDD handover delay

RRC procedure performance values for all RRC procedures that can command a hard handover are specified [16]

When the UE receives a RRC message implying FDD/TDD handover with the activation time "now" or earlier than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH at the designated activation time.

where:

$D_{handover}$ equals the RRC procedure performance value as defined in [16] plus the interruption time stated in section 5.3.2.2.

5.3.2.2 Interruption time

The interruption time, i.e. the time between the end of the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCH, is dependent on whether the target cell is known for the UE or not.

If FDD/TDD handover is commanded, the interruption time shall be less than,

$$T_{interrupt} = T_{offset} + T_{UL} + 30*F_{SFN} + 20*KC + 180*UC + 10*F_{max} \text{ ms}$$

where,

T_{offset}	Equal to 10 ms, the frame timing uncertainty between the old cell and the target cell and the time that can elapse until the appearance of a Beacon channel
T_{UL}	Equal to 10 ms, the time that can elapse until the appearance of the UL timeslot in the target cell
F_{SFN}	Equal to 1 if SFN decoding is required and equal to 0 otherwise
KC	Equal to 1 if a known target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
UC	Equal to 1 if an unknown target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
F_{max}	denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

An inter-frequency TDD target cell shall be considered known by the UE, if the target cell has been measured by the UE during the last 5 seconds.

The interruption time requirements for an unknown target cell shall apply only if the signal quality of the unknown target cell is sufficient for successful synchronisation with one attempt.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CD: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/ 3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than ~~70~~ 110 ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030013**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **511** ⌘ **rev** ⌘ Current version: **4.7.0** ⌘

*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 interruption time in FDD/TDD Hard Handover
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
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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 this test case, the delay uncertainty of the TTI of the uplink DCH is not taken into consideration. The timing of CFN between cell1 and cell2 is not always aligned in this test case described in TS25.123 A5.1. If the timing of CFN between cell1 and cell2 isn't aligned, uplink DCCH may not be able to be transmitted within the given test requirement. The transmission delay of a maximum TTI of the uplink DCH occurs to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell. This delay isn't taken into consideration with the interruption time. The transmission delay to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell is added to the interruption time.
Summary of change:	⌘	To add the maximum TTI of the uplink DCH to the interruption time To define DCH parameter as UL Reference Measurement Channel 12.2 kbps. This changes are made for FDD/TDD requirements and corresponding test cases.
Consequences if not approved:	⌘	Even “Good UE” may not pass the test. The UE may not transmit uplink DCH at the uplink TTI boundary.

Clauses affected:	⌘	5.3, A.5

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
		X		Test specifications		34.121
			X	O&M Specifications		

Other comments:	⌘	Equivalent CRs in other Releases: CR510 cat. F to 25.133 v3.12.0, CR512 cat. A

	to 25.133 v5.5.0, CR513 cat. A to 25.133 v6.0.0

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3 FDD/TDD Handover

5.3.1 Introduction

The purpose of FDD/TDD handover is to change the radio access mode from FDD to TDD. The FDD/TDD handover procedure is initiated from UTRAN with a RRC message that implies a hard handover, as described in [16].

5.3.2 Requirements

The requirements in this section shall apply to UE supporting FDD and TDD.

5.3.2.1 FDD/TDD handover delay

RRC procedure performance values for all RRC procedures that can command a hard handover are specified in [16].

When the UE receives a RRC message implying FDD/TDD handover with the activation time "now" or earlier than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH at the designated activation time.

where:

$D_{handover}$ equals the RRC procedure performance value as defined in [16] plus the interruption time stated in section 5.3.2.2.

5.3.2.2 Interruption time

The interruption time, i.e. the time between the end of the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCH, is dependent on whether the target cell is known for the UE or not

If FDD/TDD handover is commanded, the interruption time shall be less than,

$$T_{interrupt} = T_{offset} + T_{UL} + 30*F_{SFN} + 20*KC + 180*UC + 10*F_{max} \text{ ms}$$

where,

T_{offset}	Equal to 10 ms, the frame timing uncertainty between the old cell and the target cell and the time that can elapse until the appearance of a Beacon channel
T_{UL}	Equal to 10 ms, the time that can elapse until the appearance of the UL timeslot in the target cell
F_{SFN}	Equal to 1 if SFN decoding is required and equal to 0 otherwise
KC	Equal to 1 if a known target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
UC	Equal to 1 if an unknown target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
F_{max}	denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

An inter-frequency TDD target cell shall be considered known by the UE, if the target cell has been measured by the UE during the last 5 seconds.

The interruption time requirements for an unknown target cell shall apply only if the signal quality of the unknown target cell is sufficient for successful synchronisation with one attempt.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CD below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 110 ~~70~~ ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030014**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **512** ⌘ **rev** ⌘ Current version: **5.5.0** ⌘

*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 interruption time in FDD/TDD Hard Handover
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
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 this test case, the delay uncertainty of the TTI of the uplink DCH is not taken into consideration. The timing of CFN between cell1 and cell2 is not always aligned in this test case described in TS25.123 A5.1. If the timing of CFN between cell1 and cell2 isn't aligned, uplink DCCH may not be able to be transmitted within the given test requirement. The transmission delay of a maximum TTI of the uplink DCH occurs to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell. This delay isn't taken into consideration with the interruption time. The transmission delay to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell is added to the interruption time.
Summary of change:	⌘	To add the maximum TTI of the uplink DCH to the interruption time To define DCH parameter as UL Reference Measurement Channel 12.2 kbps. This changes are made for FDD/TDD requirements and corresponding test cases.
Consequences if not approved:	⌘	Even “Good UE” may not pass the test. The UE may not transmit uplink DCH at the uplink TTI boundary.

Clauses affected:	⌘	5.3, A.5

Other specs affected: ⌘	Y	N		⌘	
		X	Other core specifications		
	X		Test specifications		34.121
		X	O&M Specifications		

Other comments:	⌘	Equivalent CRs in other Releases: CR510 cat. F to 25.133 v3.12.0, CR511 cat. A

	to 25.133 v4.7.0, CR513 cat. A to 25.133 v6.0.0

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3 FDD/TDD Handover

5.3.1 Introduction

The purpose of FDD/TDD handover is to change the radio access mode from FDD to TDD. The FDD/TDD handover procedure is initiated from UTRAN with a RRC message that implies a hard handover as described in [16].

5.3.2 Requirements

The requirements in this section shall apply to UE supporting FDD and TDD.

5.3.2.1 FDD/TDD handover delay

RRC procedure performance values for all RRC procedures, that can command a hard handover, are specified in [16].

When the UE receives a RRC message implying FDD/TDD handover with the activation time "now" or earlier than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH at the designated activation time.

where:

$D_{handover}$ equals the RRC procedure performance value as defined in [16] plus the interruption time stated in section 5.3.2.2.

5.3.2.2 Interruption time

The interruption time, i.e. the time between the end of the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCH, is dependent on whether the target cell is known for the UE or not.

If FDD/TDD handover is commanded, the interruption time shall be less than,

$$T_{interrupt} = T_{offset} + T_{UL} + 30*F_{SFN} + 20*KC + 180*UC + 10*F_{max} \text{ ms}$$

where,

T_{offset}	Equal to 10 ms, the frame timing uncertainty between the old cell and the target cell and the time that can elapse until the appearance of a Beacon channel
T_{UL}	Equal to 10 ms, the time that can elapse until the appearance of the UL timeslot in the target cell
F_{SFN}	Equal to 1 if SFN decoding is required and equal to 0 otherwise
KC	Equal to 1 if a known target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
UC	Equal to 1 if an unknown target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
F_{max}	denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

An inter-frequency TDD target cell shall be considered known by the UE, if the target cell has been measured by the UE during the last 5 seconds.

The interruption time requirements for an unknown target cell shall apply only if the signal quality of the unknown target cell is sufficient for successful synchronisation with one attempt.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 110 ~~70~~ ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030015**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **513** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

*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 interruption time in FDD/TDD Hard Handover
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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 this test case, the delay uncertainty of the TTI of the uplink DCH is not taken into consideration. The timing of CFN between cell1 and cell2 is not always aligned in this test case described in TS25.123 A5.1. If the timing of CFN between cell1 and cell2 isn't aligned, uplink DCCH may not be able to be transmitted within the given test requirement. The transmission delay of a maximum TTI of the uplink DCH occurs to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell. This delay isn't taken into consideration with the interruption time. The transmission delay to align the timing of uplink DCH transmission with the maximum uplink TTI boundary of the target cell is added to the interruption time.
Summary of change:	⌘	To add the maximum TTI of the uplink DCH to the interruption time To define DCH parameter as UL Reference Measurement Channel 12.2 kbps. This changes are made for FDD/TDD requirements and corresponding test cases.
Consequences if not approved:	⌘	Even “Good UE” may not pass the test. The UE may not transmit uplink DCH at the uplink TTI boundary.

Clauses affected:	⌘	5.3, A.5

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
		X		Test specifications		34.121
			X	O&M Specifications		

Other comments:	⌘	Equivalent CRs in other Releases: CR510 cat. F to 25.133 v3.12.0, CR511 cat. A

	to 25.133 v4.7.0, CR512 cat. A to 25.133 v5.5.0

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3 FDD/TDD Handover

5.3.1 Introduction

The purpose of FDD/TDD handover is to change the radio access mode from FDD to TDD. The FDD/TDD handover procedure is initiated from UTRAN with a RRC message that implies a hard handover as described in [16].

5.3.2 Requirements

The requirements in this section shall apply to UE supporting FDD and TDD.

5.3.2.1 FDD/TDD handover delay

RRC procedure performance values for all RRC procedures, that can command a hard handover, are specified in [16].

When the UE receives a RRC message implying FDD/TDD handover with the activation time "now" or earlier than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH within $D_{handover}$ seconds from the end of the last TTI containing the RRC command.

If the access is delayed to an indicated activation time later than $D_{handover}$ seconds from the end of the last TTI containing the RRC command, the UE shall be ready to start the transmission of the new uplink DPCH at the designated activation time.

where:

$D_{handover}$ equals the RRC procedure performance value as defined in [16] plus the interruption time stated in section 5.3.2.2.

5.3.2.2 Interruption time

The interruption time, i.e. the time between the end of the last TTI containing a transport block on the old DPDCH and the time the UE starts transmission of the new uplink DPCH, is dependent on whether the target cell is known for the UE or not.

If FDD/TDD handover is commanded, the interruption time shall be less than,

$$T_{interrupt} = T_{offset} + T_{UL} + 30*F_{SFN} + 20*KC + 180*UC + 10*F_{max} \text{ ms}$$

where,

T_{offset}	Equal to 10 ms, the frame timing uncertainty between the old cell and the target cell and the time that can elapse until the appearance of a Beacon channel
T_{UL}	Equal to 10 ms, the time that can elapse until the appearance of the UL timeslot in the target cell
F_{SFN}	Equal to 1 if SFN decoding is required and equal to 0 otherwise
KC	Equal to 1 if a known target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
UC	Equal to 1 if an unknown target cell is indicated in the RRC message implying FDD/TDD handover and equal to 0 otherwise
F_{max}	denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH.

An inter-frequency TDD target cell shall be considered known by the UE, if the target cell has been measured by the UE during the last 5 seconds.

The interruption time requirements for an unknown target cell shall apply only if the signal quality of the unknown target cell is sufficient for successful synchronisation with one attempt.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.~~2~~
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 110~~70~~ ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030021**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **514** ⌘ **rev** ⌘ Current version: **3.12.0** ⌘

*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:	⌘	Applicability of Timer T-reselection for 2G cell reselection.
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘

The timer T reselection is used, in the current version of this specification, for the duration of the estimation of the cell reselection criteria, towards a 3G cell and not used for a cell reselection towards a 2G cell.

This Cr proposes the extension of the potential use of this timer for the 2G cell reselection in order to avoid a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment

This correction is in line with the 25.304. This specifiaction states that (5.2.6.1.4)

In all cases, the UE shall reselect the new cell, only if the following conditions are met:

- the new cell is better ranked than the serving cell during a time interval Treselection.
- more than 1 second has elapsed since the UE camped on the current serving cell.

The first condition of the 25.304 is missing for the 2G cell reselection case in the 25.133.

Summary of change: ⌘

- Addition of the same sentence already used for 3G cell reselection, for the 2G cell reselection case in sub 4.2.2.5 in order to introduce T reselection for GSM case.
- As the wording “ranked” is used into the 25.133, a reference to the 25.304 is

		made to define this procedure in sub 4.2.2.6 Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.
Consequences if not approved:	⌘	This could lead to a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment. The current situation could lead to a unfair comparison between technologies from a radio criteria evaluation point of view.

Clauses affected:	⌘	4.2.2.5; 4.2.2.6			
Other specs affected:	⌘	**Y** / **N**	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘	Equivalent CRs in other Releases: CR515 cat. A to 25.133 v4.7.0, CR516 cat. A to 25.133 v5.5.0, CR517 cat. A to 25.133 v6.0.0			

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.2.2 Requirements

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

The UE shall measure the CPICH Ec/Io and CPICH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [1] for the serving cell at least every DRX cycle. The UE shall filter the CPICH Ec/Io and CPICH RSCP measurements of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$ (see table 4.1).

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

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [1]

After this 12 s period a UE in Cell:PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to 25.331.

4.2.2.2 Measurements of intra-frequency cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $T_{measureFDD}$ (see table 4.1) for intra-frequency cells that are identified and measured according to the measurement rules. $T_{measureFDD}$ is defined in Table 4.1. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured intra-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

The filtering shall be such that the UE shall be capable of evaluating that an intra-frequency cell has become better ranked than the serving cell within $T_{evaluateFDD}$ (see table 4.1), from the moment the intra-frequency cell became at least 3 dB better ranked than the current serving cell, provided that Treselection timer is set to zero and either CPICH Ec/Io or CPICH RSCP is used as measurement quantity for cell reselection.

If Treselection timer has a non zero value and the intra-frequency cell is better ranked than the serving cell, the UE shall evaluate this intra-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.3 Measurements of inter-frequency FDD cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $(N_{carrier}-1) * T_{measureFDD}$ (see table 4.1) for inter-frequency cells that are identified and measured according to the measurement rules. The parameter $N_{carrier}$ is the number of carriers used for FDD cells. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured inter-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

If CPICH Ec/Io is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ (see table 4.1) from the moment the inter-frequency cell became at least 3 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 3 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If CPICH RSCP is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ from the moment the inter-frequency cell became at least 5 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.4 Measurements of inter-frequency TDD cells

The requirements in this section shall apply to UE supporting FDD and TDD.

The UE shall measure P-CCPCH RSCP at least every $N_{carrierTDD}$ * $T_{measureTDD}$ (see table 4.1) for inter-frequency TDD cells that are identified and measured according to the measurement rules. The parameter $N_{carrierTDD}$ is the number of carriers used for inter-frequency TDD cells. The UE shall filter P-CCPCH RSCP measurements of each measured inter-frequency TDD cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureTDD}/2$.

The filtering of P-CCPCH RSCP shall be such that the UE shall be capable of evaluating that an already identified inter-frequency TDD cell has become better ranked than the serving cell within $N_{carrierTDD}$* $T_{evaluateTDD}$ from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency TDD cells, the filtering shall be such that the UE shall be capable of evaluating that an inter-frequency TDD cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency TDD cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency TDD cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.5 Measurements of inter-RAT GSM cells

The UE shall measure the signal level of the GSM BCCH carrier of each GSM neighbour cell indicated in the measurement control system information of the serving cell, according to the measurement rules defined in TS25.304, at least every $T_{measureGSM}$ (see table 4.1). The UE shall maintain a running average of 4 measurements for each GSM BCCH carrier. The measurement samples for each cell shall be as far as possible uniformly distributed over the averaging period.

If GSM measuremenst are required by the measurement rules in [1], the UE shall attempt to verify the BSIC at least every 30 seconds for each of the 4 strongest GSM BCCH carriers and rank the verified GSM BCCH cells according to the cell reselection criteria defined in [1]. If a change of BSIC is detected for one GSM cell then that GSM BCCH carrier shall be treated as a new GSM neighbour cell.

If the UE detects a BSIC, which is not indicated in the measurement control system information, the UE shall not consider that GSM BCCH carrier in cell reselection. The UE also shall not consider the GSM BCCH carrier in cell reselection, if the UE cannot demodulate the BSIC of that GSM BCCH carrier.

If Treselection timer has a non zero value and the inter-RAT GSM cell is better ranked than the serving cell, the UE shall evaluate this inter-RAT GSM cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.6 Evaluation of cell re-selection criteria

The UE shall evaluate the cell re-selection criteria defined in [1] for the cells, which have new measurement results available, at least every DRX cycle.

UE shall perform cell reselection immediately after the UE has found a higher ranked suitable cell, unless less than 1 second has elapsed from the moment the UE started camping on the serving cell. The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030022**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **515** ⌘**rev** ⌘ Current version: **4.7.0** ⌘

*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:	⌘	Applicability of Timer T-reselection for 2G cell reselection.
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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D *(editorial modification)*
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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change: ⌘

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Consequences if not approved:	⌘	This could lead to a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment. The current situation could lead to a unfair comparison between technologies from a radio criteria evaluation point of view.

Clauses affected:	⌘	4.2.2.5; 4.2.2.6			
Other specs affected:	⌘	**Y**	**N**		
				Other core specifications	⌘
				Test specifications	
				O&M Specifications	
Other comments:	⌘	Equivalent CRs in other Releases: CR514 cat. F to 25.133 v3.12.0, CR516 cat. A to 25.133 v5.5.0, CR517 cat. A to 25.133 v6.0.0			

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If Treselection timer has a non zero value and the intra-frequency cell is better ranked than the serving cell, the UE shall evaluate this intra-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

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If CPICH RSCP is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ from the moment the inter-frequency cell became at least 5 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

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4.2.2.4 Measurements of inter-frequency TDD cells

The requirements in this section shall apply to UE supporting FDD and TDD.

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4.2.2.6 Evaluation of cell re-selection criteria

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3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030023**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **516** ⌘**rev** ⌘ Current version: **5.5.0** ⌘

*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:	⌘	Applicability of Timer T-reselection for 2G cell reselection.
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
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Reason for change: ⌘

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Consequences if not approved:	⌘	This could lead to a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment. The current situation could lead to a unfair comparison between technologies from a radio criteria evaluation point of view.

Clauses affected:	⌘	4.2.2.5; 4.2.2.6			
Other specs affected:	⌘	**Y** / **N**	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘	Equivalent CRs in other Releases: CR514 cat. F to 25.133 v3.12.0, CR515 cat. A to 25.133 v4.7.0, CR517 cat. A to 25.133 v6.0.0			

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3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

4.2.2 Requirements

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

The UE shall measure the CPICH Ec/Io and CPICH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [1] for the serving cell at least every DRX cycle. The UE shall filter the CPICH Ec/Io and CPICH RSCP measurements of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$ (see table 4.1).

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

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [1].

After this 12 s period a UE in Cell:PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to 25.331.

4.2.2.2 Measurements of intra-frequency cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $T_{measureFDD}$ (see table 4.1) for intra-frequency cells that are identified and measured according to the measurement rules. $T_{measureFDD}$ is defined in Table 4.1. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured intra-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

The filtering shall be such that the UE shall be capable of evaluating that an intra-frequency cell has become better ranked than the serving cell within $T_{evaluateFDD}$ (see table 4.1), from the moment the intra-frequency cell became at least 3 dB better ranked than the current serving cell, provided that Treselection timer is set to zero and either CPICH Ec/Io or CPICH RSCP is used as measurement quantity for cell reselection.

If Treselection timer has a non zero value and the intra-frequency cell is better ranked than the serving cell, the UE shall evaluate this intra-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.3 Measurements of inter-frequency FDD cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $(N_{carrier}-1) * T_{measureFDD}$ (see table 4.1) for inter-frequency cells that are identified and measured according to the measurement rules. The parameter $N_{carrier}$ is the number of carriers used for FDD cells. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured inter-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

If CPICH Ec/Io is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ (see table 4.1) from the moment the inter-frequency cell became at least 3 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 3 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If CPICH RSCP is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ from the moment the inter-frequency cell became at least 5 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.4 Measurements of inter-frequency TDD cells

The requirements in this section shall apply to UE supporting FDD and TDD.

The UE shall measure P-CCPCH RSCP at least every $N_{carrierTDD}$ * $T_{measureTDD}$ (see table 4.1) for inter-frequency TDD cells that are identified and measured according to the measurement rules. The parameter $N_{carrierTDD}$ is the number of carriers used for inter-frequency TDD cells. The UE shall filter P-CCPCH RSCP measurements of each measured inter-frequency TDD cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureTDD}/2$.

The filtering of PCCPCH RSCP shall be such that the UE shall be capable of evaluating that an already identified inter-frequency TDD cell has become better ranked than the serving cell within $N_{carrierTDD}$* $T_{evaluateTDD}$ from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency TDD cells, the filtering shall be such that the UE shall be capable of evaluating that an inter-frequency TDD cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency TDD cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency TDD cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.5 Measurements of inter-RAT GSM cells

The UE shall measure the signal level of the GSM BCCH carrier of each GSM neighbour cell indicated in the measurement control system information of the serving cell, according to the measurement rules defined in [1], at least every $T_{measureGSM}$ (see table 4.1). The UE shall maintain a running average of 4 measurements for each GSM BCCH carrier. The measurement samples for each cell shall be as far as possible uniformly distributed over the averaging period.

If GSM measuremenst are required by the measurement rules in [1], the UE shall attempt to verify the BSIC at least every 30 seconds for each of the 4 strongest GSM BCCH carriers and rank the verified GSM BCCH cells according to the cell reselection criteria defined in [1]. If a change of BSIC is detected for one GSM cell then that GSM BCCH carrier shall be treated as a new GSM neighbour cell.

If the UE detects a BSIC, which is not indicated in the measurement control system information, the UE shall not consider that GSM BCCH carrier in cell reselection. The UE also shall not consider the GSM BCCH carrier in cell reselection, if the UE cannot demodulate the BSIC of that GSM BCCH carrier.

If Treselection timer has a non zero value and the inter-RAT GSM cell is better ranked than the serving cell, the UE shall evaluate this inter-RAT GSM cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.6 Evaluation of cell re-selection criteria

The UE shall evaluate the cell re-selection criteria defined in TS 25.304 for the cells, which have new measurement results available, at least every DRX cycle.

UE shall perform cell reselection immediately after the UE has found a higher ranked suitable cell, unless less than 1 second has elapsed from the moment the UE started camping on the serving cell. The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030024**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **517** ⌘**rev** ⌘ Current version: **6.0.0** ⌘

*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:	⌘	Applicability of Timer T-reselection for 2G cell reselection.
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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 timer T reselection is used, in the current version of this specification, for the duration of the estimation of the cell reselection criteria, towards a 3G cell and not used for a cell reselection towards a 2G cell.

This Cr proposes the extension of the potential use of this timer for the 2G cell reselection in order to avoid a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment

This correction is in line with the 25.304. This specifiaction states that (5.2.6.1.4)

In all cases, the UE shall reselect the new cell, only if the following conditions are met:

- the new cell is better ranked than the serving cell during a time interval Treselection.
- more than 1 second has elapsed since the UE camped on the current serving cell.

The first condition of the 25.304 is missing for the 2G cell reselection case in the 25.133.

Summary of change: ⌘

- Addition of the same sentence already used for 3G cell reselection, for the 2G cell reselection case in sub 4.2.2.5 in order to introduce T reselection for GSM case.
- As the wording “ranked” is used into the 25.133, a reference to the 25.304 is

		made to define this procedure in sub 4.2.2.6 Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.
Consequences if not approved:	⌘	This could lead to a biased situation while the UE is considering cell reselection in a mixed 2G / 3G environment. The current situation could lead to a unfair comparison between technologies from a radio criteria evaluation point of view.

Clauses affected:	⌘	4.2.2.5; 4.2.2.6			
Other specs affected:	⌘	**Y** / **N**	Other core specifications Test specifications O&M Specifications	⌘	
Other comments:	⌘	Equivalent CRs in other Releases: CR514 cat. F to 25.133 v3.12.0, CR515 cat. A to 25.133 v4.7.0, CR516 cat. A to 25.133 v5.5.0			

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4.2.2 Requirements

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

The UE shall measure the CPICH Ec/Io and CPICH RSCP level of the serving cell and evaluate the cell selection criterion S defined in [1] for the serving cell at least every DRX cycle. The UE shall filter the CPICH Ec/Io and CPICH RSCP measurements of the serving cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$ (see table 4.1).

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

If the UE has not found any new suitable cell based on searches and measurements of the neighbour cells indicated in the measurement control system information for 12 s, the UE shall initiate cell selection procedures for the selected PLMN as defined in [1].

After this 12 s period a UE in Cell:PCH or URA_PCH is considered to be “out of service area” and shall perform actions according to 25.331.

4.2.2.2 Measurements of intra-frequency cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $T_{measureFDD}$ (see table 4.1) for intra-frequency cells that are identified and measured according to the measurement rules. $T_{measureFDD}$ is defined in Table 4.1. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured intra-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

The filtering shall be such that the UE shall be capable of evaluating that an intra-frequency cell has become better ranked than the serving cell within $T_{evaluateFDD}$ (see table 4.1), from the moment the intra-frequency cell became at least 3 dB better ranked than the current serving cell, provided that Treselection timer is set to zero and either CPICH Ec/Io or CPICH RSCP is used as measurement quantity for cell reselection.

If Treselection timer has a non zero value and the intra-frequency cell is better ranked than the serving cell, the UE shall evaluate this intra-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.3 Measurements of inter-frequency FDD cells

The UE shall measure CPICH Ec/Io and CPICH RSCP at least every $(N_{carrier}-1) * T_{measureFDD}$ (see table 4.1) for inter-frequency cells that are identified and measured according to the measurement rules. The parameter $N_{carrier}$ is the number of carriers used for FDD cells. The UE shall filter CPICH Ec/Io and CPICH RSCP measurements of each measured inter-frequency cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureFDD}/2$.

If CPICH Ec/Io is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ (see table 4.1) from the moment the inter-frequency cell became at least 3 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 3 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If CPICH RSCP is used as measurement quantity for cell reselection, the filtering shall be such that the UE shall be capable of evaluating that an already identified inter-frequency cell has become better ranked than the serving cell within $(N_{carrier}-1) * T_{evaluateFDD}$ from the moment the inter-frequency cell became at least 5 dB better than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency cells, the filtering shall be such that the UE shall be capable of evaluating that inter-frequency cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.4 Measurements of inter-frequency TDD cells

The requirements in this section shall apply to UE supporting FDD and TDD.

The UE shall measure P-CCPCH RSCP at least every $N_{carrierTDD}$ * $T_{measureTDD}$ (see table 4.1) for inter-frequency TDD cells that are identified and measured according to the measurement rules. The parameter $N_{carrierTDD}$ is the number of carriers used for inter-frequency TDD cells. The UE shall filter P-CCPCH RSCP measurements of each measured inter-frequency TDD cell using at least 2 measurements, which are taken so that the time difference between the measurements is at least $T_{measureTDD}/2$.

The filtering of PCCPCH RSCP shall be such that the UE shall be capable of evaluating that an already identified inter-frequency TDD cell has become better ranked than the serving cell within $N_{carrierTDD}$* $T_{evaluateTDD}$ from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero. For non-identified inter-frequency TDD cells, the filtering shall be such that the UE shall be capable of evaluating that an inter-frequency TDD cell has become better ranked than the serving cell within 30 s from the moment the inter-frequency TDD cell became at least 5 dB better ranked than the current serving cell provided that Treselection timer is set to zero.

If Treselection timer has a non zero value and the inter-frequency TDD cell is better ranked than the serving cell, the UE shall evaluate this inter-frequency TDD cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.5 Measurements of inter-RAT GSM cells

The UE shall measure the signal level of the GSM BCCH carrier of each GSM neighbour cell indicated in the measurement control system information of the serving cell, according to the measurement rules defined in [1], at least every $T_{measureGSM}$ (see table 4.1). The UE shall maintain a running average of 4 measurements for each GSM BCCH carrier. The measurement samples for each cell shall be as far as possible uniformly distributed over the averaging period.

If GSM measuremenst are required by the measurement rules in [1], the UE shall attempt to verify the BSIC at least every 30 seconds for each of the 4 strongest GSM BCCH carriers and rank the verified GSM BCCH cells according to the cell reselection criteria defined in [1]. If a change of BSIC is detected for one GSM cell then that GSM BCCH carrier shall be treated as a new GSM neighbour cell.

If the UE detects a BSIC, which is not indicated in the measurement control system information, the UE shall not consider that GSM BCCH carrier in cell reselection. The UE also shall not consider the GSM BCCH carrier in cell reselection, if the UE cannot demodulate the BSIC of that GSM BCCH carrier.

If Treselection timer has a non zero value and the inter-RAT GSM cell is better ranked than the serving cell, the UE shall evaluate this inter-RAT GSM cell for the Treselection time. If this cell remains better ranked within this duration, then the UE shall reselect that cell.

4.2.2.6 Evaluation of cell re-selection criteria

The UE shall evaluate the cell re-selection criteria defined in TS 25.304 for the cells, which have new measurement results available, at least every DRX cycle.

UE shall perform cell reselection immediately after the UE has found a higher ranked suitable cell, unless less than 1 second has elapsed from the moment the UE started camping on the serving cell. The ranking of the cells shall be made according to the cell reselection criteria specified in TS25.304.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030076**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **521** ⌘ **rev** ⌘ Current version: **5.5.0** ⌘

*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:	⌘	Activation time in Hard HO test case
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
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 the hard handover requirements in paragraphs 5.2, 5.3 and 5.4 it is stated that the transmission after a handover shall be started at the designated activation time while in the corresponding testcases in A 5.2., A5.3 and A5.4 it is stated that the UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3. T3 is the designated activation time for the testcase. This means that the actual activation time may be delayed by the interruption time compared with the core requirement.
Summary of change:	⌘	Change the activation time to “now”.
Consequences if not approved:	⌘	The testcase will not test the actual delay requirement.

Clauses affected:	⌘	A 5.2, A 5.3, A 5.4			
Other specs affected:	⌘	Y / N ☐ / ☒	Other core specifications	⌘	
		☒ / ☐	Test specifications		34.121
		☐ / ☒	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR528 cat. F to 25.133 v3.12.0, CR529 cat. A to 25.133 v4.7.0, CR522 cat. A to 25.133 v6.0.0			

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A.5.2 FDD/FDD Hard Handover

A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL_DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.0 and A.5.0A below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting range		dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	5	
T3		s	5	

Table A.5.0A: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS		Note2	Note2	Note2	-0.941	-0.941	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	6.97		-Infinity	5.97	
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 110 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the inter frequency hard handover delay in CELL_DCH state as specified in section 5.2.2.1.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.5.0B and A.5.0C below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at beginning of T3~~ with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0B: General test parameters for Handover to inter-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 1	As specified in TS 25.101 section A.5.
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final conditions	Active cell		Cell 2	
Threshold non used frequency		dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range		dB	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used frequency			1	Applicable for event 2C
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	10	
T3		s	5	

Table A.5.0C: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1			Channel 2		
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note 1	Note 1	Note3	N/A	N/A	Note 1
OCNS		Note 2			-0.941	-0.941	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0			-Infinity	-1.8	-1.8
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	-14
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 140 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time "now" ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].~~such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].~~

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 5.4.2.1.

The test parameters are given in Table A.5.0D, A.5.0E and A.5.0F below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time "now" ~~at beginning of T3~~ with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included. . The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

The requirements are also applicable for a UE not requiring compressed mode, in which case no compresed mode pattern should be sent for the parameters specifed in table A5.0D

Table A.5.0D: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns - GSM carrier RSSI measurement - GSM Initial BSIC identification - GSM BSIC re-confirmation		 DL Compressed mode reference pattern 2 in Set 2 Pattern 2 Pattern 2	Only applicable for UE requiring compressed mode patterns As specified in table A.22 TS 25.101 section A.5 As specified in section 8.1.2.5.2.1 table 8.7. As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		Required	
Threshold other system	dBm	-80	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from table 8.7.
T Reconfirm abort		5.5	Taken from table 8.8.
T1	s	20	
T2	s	5	
T3	s	5	

Table A.5.0E: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)
		T1, T2, T3
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
DCH_Ec/Ior	dB	Note 1
OCNS_Ec/Ior	dB	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.		

Table A.5.0F: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2, T3
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-85	-75

A.5.4.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

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CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **522** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

*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:	⌘	Activation time in Hard HO test case
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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 the hard handover requirements in paragraphs 5.2, 5.3 and 5.4 it is stated that the transmission after a handover shall be started at the designated activation time while in the corresponding testcases in A 5.2., A5.3 and A5.4 it is stated that the UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3. T3 is the designated activation time for the testcase. This means that the actual activation time may be delayed by the interruption time compared with the core requirement, depends on when the RRC message is received.
Summary of change:	⌘	Change the activation time to “now” and add that the RRC message shall be available in the UE such that the UE can decode it before T3.
Consequences if not approved:	⌘	The testcase will not test the actual delay requirement.

Clauses affected:	⌘	A 5.2, A 5.3, A 5.4

		Y	N			
Other specs affected:	⌘		X	Other core specifications	⌘	
			X	Test specifications		34.121
			X	O&M Specifications		

Other comments:	⌘	Equivalent CRs in other Releases: CR528 cat. F to 25.133 v3.12.0, CR529 cat. A to 25.133 v4.7.0, CR521 cat. A to 25.133 v5.5.0

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

A.5.2 FDD/FDD Hard Handover

A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL_DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.0 and A.5.0A below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting range		dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	5	
T3		s	5	

Table A.5.0A: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS		Note2	Note2	Note2	-0.941	-0.941	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	6.97		-Infinity	5.97	
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 110 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the inter frequency hard handover delay in CELL_DCH state as specified in section 5.2.2.1.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.5.0B and A.5.0C below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at beginning of T3~~ with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0B: General test parameters for Handover to inter-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 1	As specified in TS 25.101 section A.5.
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final conditions	Active cell		Cell 2	
Threshold non used frequency		dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range		dB	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used frequency			1	Applicable for event 2C
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	10	
T3		s	5	

Table A.5.0C: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1			Channel 2		
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note 1	Note 1	Note3	N/A	N/A	Note 1
OCNS		Note 2			-0.941	-0.941	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0			-Infinity	-1.8	-1.8
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	-14
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 140 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time ”now” ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].~~such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].~~

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior. Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.										

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 5.4.2.1.

The test parameters are given in Table A.5.0D, A.5.0E and A.5.0F below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time "now" ~~at beginning of T3~~ with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included. The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

The requirements are also applicable for a UE not requiring compressed mode, in which case no compresed mode pattern should be sent for the parameters specifed in table A5.0D

Table A.5.0D: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns - GSM carrier RSSI measurement - GSM Initial BSIC identification - GSM BSIC re-confirmation		 DL Compressed mode reference pattern 2 in Set 2 Pattern 2 Pattern 2	Only applicable for UE requiring compressed mode patterns As specified in table A.22 TS 25.101 section A.5 As specified in section 8.1.2.5.2.1 table 8.7. As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		Required	
Threshold other system	dBm	-80	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from table 8.7.
T Reconfirm abort		5.5	Taken from table 8.8.
T1	s	20	
T2	s	5	
T3	s	5	

Table A.5.0E: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)
		T1, T2, T3
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
DCH_Ec/Ior	dB	Note 1
OCNS_Ec/Ior	dB	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.		

Table A.5.0F: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2, T3
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-85	-75

A.5.4.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030154**

Madrid, Spain 17 - 22 February, 2003

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CHANGE REQUEST

⌘ **25.133** **CR** **528** ⌘ **rev** ⌘ Current version: **3.12.0** ⌘

*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:	⌘	Activation time in Hard HO test case
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In the hard handover requirements in paragraphs 5.2, 5.3 and 5.4 it is stated that the transmission after a handover shall be started at the designated activation time while in the corresponding testcases in A 5.2., A5.3 and A5.4 it is stated that the UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3. T3 is the designated activation time for the testcase. This means that the actual activation time may be delayed by the interruption time compared with the core requirement, depends on when the RRC message is received. **Isolated Impact:** This has no isolated impact on a UE fulfilling the specified requirement.
Summary of change:	⌘	Change the activation time to “now” and add that the RRC message shall be available in the UE such that the UE can decode it before T3.
Consequences if not approved:	⌘	The testcase will not test the actual delay requirement.

Clauses affected:	⌘	A 5.2, A 5.3, A 5.4

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	34.121
	X		Test specifications	
		X	O&M Specifications	

Other comments: ⌘ Equivalent CRs in other Releases: CR529 cat. A to 25.133 v4.7.0, CR521 cat. A

	to 25.133 v5.5.0, CR522 cat. A to 25.133 v6.0.0

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

A.5.2 FDD/FDD Hard Handover

A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL_DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.0 and A.5.0A below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time "now" ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and ULReference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting range		dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	5	
T3		s	5	

Table A.5.0A: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS		Note2	Note2	Note2	-0.941	-0.941	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	6.97		-Infinity	5.97	
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 110 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the inter frequency hard handover delay in CELL_DCH state as specified in section 5.2.2.1.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.5.0B and A.5.0C below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at beginning of T3~~ with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0B: General test parameters for Handover to inter-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 1	As specified in TS 25.101 section A.5.
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final conditions	Active cell		Cell 2	
Threshold non used frequency		dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range		dB	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used frequency			1	Applicable for event 2C
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	10	
T3		s	5	

TableA.5.0C: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1			Channel 2		
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note1	Note 1	Note 3	N/A	N/A	Note1
OCNS		Note 2			-0.941	-0.941	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0			- Infinity	-1.8	-1.8
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			- Infinity	-14	
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 140 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CC below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time ~~at the beginning of T3~~ "now" with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE~~-~~ so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].~~such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].~~

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CD: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/ 3,84 MHz	-70								
Propagation Condition		AWGN								

Note 1: The DPCH level is controlled by the power control loop
Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.
Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 5.4.2.1.

The test parameters are given in Table A.5.0D, A.5.0E and A.5.0F below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time ~~at beginning of T3~~ "now" with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included. The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

The requirements are also applicable for a UE not requiring compressed mode, in which case no compressed mode pattern should be sent for the parameters specified in table A5.0D

Table A.5.0D: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns - GSM carrier RSSI measurement - GSM Initial BSIC identification - GSM BSIC re-confirmation		 DL Compressed mode reference pattern 2 in Set 2 Pattern 2 Pattern 2	Only applicable for UE requiring compressed mode patterns As specified in table A.22 TS 25.101 section A.5 As specified in section 8.1.2.5.2.1 table 8.7. As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		Required	
Threshold other system	dBm	-80	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from table 8.7.
T Reconfirm abort		5.5	Taken from table 8.8.
T1	s	20	
T2	s	5	
T3	s	5	

Table A.5.0E: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)
		T1, T2, T3
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
DCH_Ec/Ior	dB	Note 1
OCNS_Ec/Ior	dB	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/ 3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.		

Table A.5.0F: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2, T3
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-85	-75

A.5.4.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030155**

Madrid, Spain 17 - 22 February, 2003

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CHANGE REQUEST

⌘ **25.133** **CR** **529** ⌘ **rev** ⌘ Current version: **4.7.0** ⌘

*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:	⌘	Activation time in Hard HO test case
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
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 the hard handover requirements in paragraphs 5.2, 5.3 and 5.4 it is stated that the transmission after a handover shall be started at the designated activation time while in the corresponding testcases in A 5.2., A5.3 and A5.4 it is stated that the UE shall start to transmit the UL DPCCH to Cell 2 less than 70 ms from the beginning of time period T3. T3 is the designated activation time for the testcase. This means that the actual activation time may be delayed by the interruption time compared with the core requirement, depends on when the RRC message is received.
Summary of change:	⌘	Change the activation time to "now" and add that the RRC message shall be available in the UE such that the UE can decode it before T3.
Consequences if not approved:	⌘	The testcase will not test the actual delay requirement.

Clauses affected:	⌘	A 5.2, A 5.3, A 5.4

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	34.121
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘

Equivalent CRs in other Releases: CR528 cat. F to 25.133 v3.12.0, CR521 cat. A to 25.133 v5.5.0, CR522 cat. A to 25.133 v6.0.0

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.

A.5.2 FDD/FDD Hard Handover

A.5.2.1 Handover to intra-frequency cell

A.5.2.1.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the hard handover delay in CELL_DCH state in the single carrier case reported in section 5.2.2.1.

The test parameters are given in Table A.5.0 and A.5.0A below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 1B shall be used, and that CPICH Ec/Io and SFN-CFN observed timed difference shall be reported together with Event 1A. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now”~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0: General test parameters for Handover to intra-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Initial conditions	Active cell		Cell 1	
	Neighbouring cell		Cell 2	
Final condition	Active cell		Cell 2	
Reporting range		dB	3	Applicable for event 1A and 1B
Hysteresis		dB	0	
W			1	Applicable for event 1A and 1B
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	5	
T3		s	5	

Table A.5.0A: Cell specific test parameters for Handover to intra-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note1	Note1	Note3	N/A	N/A	Note1
OCNS		Note2	Note2	Note2	-0.941	-0.941	Note2
$\hat{I}_{or}/I_{oc}$	dB	0	6.97		-Infinity	5.97	
I_{oc}	dBm/ 3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.1.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 110 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.2.2 Handover to inter-frequency cell

A.5.2.2.1 Test Purpose and Environment

The purpose of this test is to verify the requirement for the inter frequency hard handover delay in CELL_DCH state as specified in section 5.2.2.1.

The test consists of three successive time periods, with a time duration T1, T2 and T3. The test parameters are given in tables A.5.0B and A.5.0C below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 1A and 2C shall be used. The CPICH Ec/I0 of the best cell on the unused frequency shall be reported together with Event 2C reporting. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration with activation time ”now” ~~at beginning of T3~~ with one active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

Table A.5.0B: General test parameters for Handover to inter-frequency cell

Parameter		Unit	Value	Comment
DCH parameters			DL and UL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and A.2.1
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 1	As specified in TS 25.101 section A.5.
Initial conditions	Active cell		Cell 1	
	Neighbour cell		Cell 2	
Final conditions	Active cell		Cell 2	
Threshold non used frequency		dB	-18	Absolute Ec/I0 threshold for event 2C
Reporting range		dB	4	Applicable for event 1A
Hysteresis		dB	0	
W			1	Applicable for event 1A
W non-used frequency			1	Applicable for event 2C
Reporting deactivation threshold			0	Applicable for event 1A
Time to Trigger		ms	0	
Filter coefficient			0	
T1		s	5	
T2		s	10	
T3		s	5	

Table A.5.0C: Cell Specific parameters for Handover to inter-frequency cell

Parameter	Unit	Cell 1			Cell 2		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 1			Channel 2		
CPICH_Ec/Ior	dB	-10			-10		
PCCPCH_Ec/Ior	dB	-12			-12		
SCH_Ec/Ior	dB	-12			-12		
PICH_Ec/Ior	dB	-15			-15		
DPCH_Ec/Ior	dB	Note 1	Note 1	Note3	N/A	N/A	Note 1
OCNS		Note 2			-0.941	-0.941	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0			-Infinity	-1.8	-1.8
I_{oc}	dBm/3.84 MHz	-70					
CPICH_Ec/Io	dB	-13			-Infinity	-14	-14
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}. Note 3: The DPCH may not be power controlled by the power control loop.							

A.5.2.2.2 Test Requirements

The UE shall start to transmit the UL DPCCH to Cell 2 less than 140 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

A.5.3 FDD/TDD Handover

A.5.3.1 Test purpose and Environment

A.5.3.1.1 3.84 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CA, A.5.0CB and A.5.0CD below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time "now" ~~at the beginning of T3~~ with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].~~such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].~~

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CA: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		dB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		dB	0	Hysteresis parameter for event 2C
Time to Trigger		ms	0	
Threshold non-used frequency		dBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		s	1.28	The value shall be used for all cells in the test
T1		s	5	
T2		s	15	
T3		s	5	

Table A.5.0CB: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	

Note 1: The DPCH level is controlled by the power control loop
Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}

Table A.5.0CC: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2								
DL timeslot number		0			2			8		
		T1	T2	T3	T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2								
P-CCPCH_Ec/Ior	dB	-3			n.a.			n.a.		
PICH_Ec/Ior	dB	n.a.			n.a.			-3		
SCH_Ec/Ior	dB	-9			n.a.			-9		
SCH_t_{offset}	dB	5			n.a.			5		
DPCH_Ec/Ior	dB	n.a.			n.a.		Note 1	n.a.		
OCNS_Ec/Ior	dB	-3.12			0		Note 2	-3.12		
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67		n.a.			n.a.		
I_{oc}	dBm/3,84 MHz	-70								
Propagation Condition		AWGN								

Note 1: The DPCH level is controlled by the power control loop
Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.
Note that the transmit energy per PN chip for the SCH is averaged over the 256 chip duration when the SCH is present in the time slot.

A.5.3.1.2 1.28 Mcps TDD Option

The purpose of this test is to verify the requirement for the FDD/TDD handover delay in CELL_DCH state reported in section 5.3.2.1.

The test parameters are given in Table A.5.0CD, A.5.0CE and A.5.0CF below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 2C shall be used. The P-CCPCH RSCP of the best cell on the unused frequency shall be reported together with Event 2C reporting. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Physical Channel reconfiguration message with activation time at the beginning of T3 with a new active cell, cell 2. The Physical Channel reconfiguration message shall be sent to the UE such that the delay between the end of the last received TTI containing the message and the beginning of T3 is at least equal to the RRC procedure delay as defined in [16].

The UL DPCH in cell 2 shall be transmitted in timeslot 10.

Table A.5.0CD: General test parameters for FDD/TDD handover

Parameter		Unit	Value	Comment
DCH parameters			DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1 and in TS 25.102 section A.2.2
Power Control			On	
Target quality value on DTCH		BLER	0.01	
Compressed mode			A.22 set 3	As specified in TS25.101 section A.5
Initial conditions	Active cell		Cell 1	FDD cell
	Neighbour cell		Cell 2	TDD cell
Final condition	Active cell		Cell 2	TDD cell
O		DB	0	Cell individual offset. This value shall be used for all cells in the test.
Hysteresis		DB	0	Hysteresis parameter for event 2C
Time to Trigger		Ms	0	
Threshold non-used frequency		DBm	-75	Applicable for Event 2C
Filter coefficient			0	
Monitored cell list size			6 FDD neighbours on Channel 1 6 TDD neighbours on Channel 2	
T_{SI}		S	1.28	The value shall be used for all cells in the test
T1		S	5	
T2		S	15	
T3		S	5	

Table A.5.0CE: Cell 1 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 1	
		T1, T2	T3
UTRA RF Channel Number		Channel 1	
CPICH_Ec/Ior	dB	-10	
P-CCPCH_Ec/Ior	dB	-12	
SCH_Ec/Ior	dB	-12	
PICH_Ec/Ior	dB	-15	
DPCH_Ec/Ior	dB	Note 1	n.a.
OCNS_Ec/Ior	dB	Note 2	
$\hat{I}_{or}/I_{oc}$	dB	0	
I_{oc}	dBm/3.84 MHz	-70	
CPICH_Ec/Io	dB	-13	
Propagation Condition		AWGN	
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}			

Table A.5.0CF: Cell 2 specific test parameters for FDD/TDD handover

Parameter	Unit	Cell 2					
DL timeslot number		**0**			**DwPTs**		
		T1	T2	T3	T1	T2	T3
UTRA RF Channel Number		Channel 2					
P-CCPCH_Ec/Ior	dB	-3					
DwPCH _Ec/Ior	dB				0		
DPCH_Ec/Ior	dB						Note 1
OCNS_Ec/Ior	dB	-3					Note 2
$\hat{I}_{or}/I_{oc}$	dB	-Inf	6		-Inf	6	
P-CCPCH RSCP	dBm	-Inf	-67				
I_{oc}	dBm/1.28 MHz	-70					
Propagation Condition		AWGN					
Note 1: The DPCH level is controlled by the power control loop Note 2: The power of the OCNS channel that is added shall make the total power from the cell to be equal to Ior.							

A.5.3.2 Test Requirements

The UE shall start to transmit the UL DPCH to Cell 2 less than 70 ms from the beginning of time period T3.

The rate of correct FDD/TDD handovers observed during repeated tests shall be at least 90%.

A.5.4 Inter-system Handover from UTRAN FDD to GSM

A.5.4.1 Test Purpose and Environment

This test is to verify the requirement for the UTRAN to GSM cell handover delay reported in section 5.4.2.1.

The test parameters are given in Table A.5.0D, A.5.0E and A.5.0F below. In the measurement control information it is indicated to the UE that event-triggered reporting with Event 3C shall be used.. The test consists of three successive time periods, with a time duration of T1, T2 and T3 respectively. At the start of time duration T1, the UE may not have any timing information of cell 2.

UTRAN shall send a Handover from UTRAN command with activation time "now" ~~at beginning of T3~~ with a new active cell, cell 2. In GSM Handover command contained in that message, IE starting time shall not be included. . The RRC HANDOVER FROM UTRAN COMMAND message shall be sent to the UE so that the whole message is available at the UE the RRC procedure delay prior to the beginning of T3. The RRC procedure delay is defined [16].

The requirements are also applicable for a UE not requiring compressed mode, in which case no compresed mode pattern should be sent for the parameters specifed in table A5.0D

Table A.5.0D: General test parameters for Correct reporting of GSM neighbours in AWGN propagation condition

Parameter	Unit	Value	Comment
DCH parameters		DL Reference Measurement Channel 12.2 kbps	As specified in TS 25.101 section A.3.1
Power Control		On	
Target quality value on DTCH	BLER	0.01	
Compressed mode patterns - GSM carrier RSSI measurement - GSM Initial BSIC identification - GSM BSIC re-confirmation		 DL Compressed mode reference pattern 2 in Set 2 Pattern 2 Pattern 2	Only applicable for UE requiring compressed mode patterns As specified in table A.22 TS 25.101 section A.5 As specified in section 8.1.2.5.2.1 table 8.7. As specified in section 8.1.2.5.2.2 table 8.8.
Active cell		Cell 1	
Inter-RAT measurement quantity		GSM Carrier RSSI	
BSIC verification required		Required	
Threshold other system	dBm	-80	Absolute GSM carrier RSSI threshold for event 3B and 3C.
Hysteresis	dB	0	
Time to Trigger	ms	0	
Filter coefficient		0	
Monitored cell list size		24 FDD neighbours on Channel 1 6 GSM neighbours including ARFCN 1	Measurement control information is sent before the compressed mode patterns starts.
N Identify abort		66	Taken from table 8.7.
T Reconfirm abort		5.5	Taken from table 8.8.
T1	s	20	
T2	s	5	
T3	s	5	

Table A.5.0E: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 1)

Parameter	Unit	Cell 1 (UTRA)
		T1, T2, T3
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
PICH_Ec/Ior	dB	-15
DCH_Ec/Ior	dB	Note 1
OCNS_Ec/Ior	dB	Note 2
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN
Note 1: The DPCH level is controlled by the power control loop Note 2 : The power of the OCNS channel that is added shall make the total power from the cell to be equal to I_{or}.		

Table A.5.0F: Cell Specific Parameters for Handover UTRAN to GSM cell case (cell 2)

Parameter	Unit	Cell 2 (GSM)	
		T1	T2, T3
Absolute RF Channel Number		ARFCN 1	
RXLEV	dBm	-85	-75

A.5.4.2 Test Requirements

The UE shall begin to send access bursts on the new DCCH of the target cell less than 40 ms from the beginning of time period T3.

The rate of correct handovers observed during repeated tests shall be at least 90%.

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030248**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **544** ⌘ **rev** ⌘ Current version: **3.12.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Constant Value in Random Access Test requirements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In Table A.6.7, the value of the parameter "Constant Value" in Random Access Tests is outside of range specified in TS25.331.
Summary of change:	⌘	In Table A.6.7, the value of the parameter "Constant Value" in Random Access Tests changed to "–10", so that the value is in the specified range of TS25.331. The value of the parameter "UL interference" is changed accordingly to keep the Preamble_Initial_Power as it was.
Consequences if not approved:	⌘	Random Access Tests cannot be executed with the value of the parameter "Constant value" as currently defined.

Clauses affected:	⌘	Table A.6.7			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
		X		Test specifications	34.121
			X	O&M Specifications	
Other comments:	⌘	Equivalent CRs in other Releases: CR545 cat. A to 25.133 v4.7.0, CR546 cat. A to 25.133 v5.5.0, CR547 cat. A to 25.133 v6.0.0			

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Below is a brief summary:

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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.

A.6.2 Random Access

A.6.2.1 Test Purpose and Environment

The purpose of these tests are to verify that the behaviour of the random access procedure is according to the requirements and that the PRACH power settings are within specified limits. This tests will verify the requirements in section 6.3.2.

Table A.6.5: RF Parameters for Random Access test

Parameter	Unit	Cell 1
UTRA RF Channel Number		Channel 1
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
Number of other transmitted Acquisition Indicators	-	0
AICH_Ec/Ior	dB	-10
PICH_Ec/Ior	dB	-15
OCNS_Ec/Ior when an AI is not transmitted	dB	-0.941
OCNS_Ec/Ior when an AI is transmitted	dB	-1.516
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN

The test parameters "System Information Block (SIB) type 5 (ASC #0)" defined in section 6.1 of TS34.108, shall be used in all random access tests. Crucial parameters for the test requirements are repeated in Table A.6.6 and A.6.7 and these overrule the parameters defined in SIB type 5.

Table A.6.6: UE parameters for Random Access test

Parameter	Unit	Value
Access Service Class (ASC#0) - Persistence value	0..1	1
Maximum number of preamble ramping cycles (M_{max}).		2
Maximum number of preambles in one preamble ramping cycle (Preamble Retrans Max)		12
The backoff time T_{B01} N_{B01min}=N_{B01max}	ms #TTI	N/A 10
Power step when no acquisition indicator is received (Power offset P0)	dB	3
Power offset between the last transmitted preamble and the control part of the message (Power offset P p-m)	dB	0
Maximum allowed UL TX power	dBm	21

Table A.6.7: UTRAN parameters for Random Access test

Parameter	Unit	Value
Primary CPICH DL TX power	dBm	-8
UL interference	dBm	~~-102~~ -92
SIR in open loop power control (Constant value)	dB	~~0~~ -10
AICH Power Offset	dB	0

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030249**

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CHANGE REQUEST

⌘ **25.133** **CR** **545** ⌘ **rev** ⌘ Current version: **4.7.0** ⌘

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Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Constant Value in Random Access Test requirements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-4

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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	In Table A.6.7, the value of the parameter "Constant Value" in Random Access Tests is outside of range specified in TS25.331.
Summary of change:	⌘	In Table A.6.7, the value of the parameter "Constant Value" in Random Access Tests changed to "–10", so that the value is in the specified range of TS25.331. The value of the parameter "UL interference" is changed accordingly to keep the Preamble_Initial_Power as it was.
Consequences if not approved:	⌘	Random Access Tests cannot be executed with the value of the parameter "Constant value" as currently defined.

Clauses affected:	⌘	Table A.6.7

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘ Equivalent CRs in other Releases: CR544 cat. F to 25.133 v3.12.0, CR546 cat. A to 25.133 v5.5.0, CR547 cat. A to 25.133 v6.0.0

How to create CRs using this form:
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Below is a brief summary:

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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.

A.6.2 Random Access

A.6.2.1 Test Purpose and Environment

The purpose of these tests are to verify that the behaviour of the random access procedure is according to the requirements and that the PRACH power settings are within specified limits. This tests will verify the requirements in section 6.3.2.

Table A.6.5: RF Parameters for Random Access test

Parameter	Unit	Cell 1
UTRA RF Channel Number		Channel 1
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
Number of other transmitted Acquisition Indicators	-	0
AICH_Ec/Ior	dB	-10
PICH_Ec/Ior	dB	-15
OCNS_Ec/Ior when an AI is not transmitted	dB	-0.941
OCNS_Ec/Ior when an AI is transmitted	dB	-1.516
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN

The test parameters "System Information Block (SIB) type 5 (ASC #0)" defined in section 6.1 of TS34.108, shall be used in all random access tests. Crucial parameters for the test requirements are repeated in Table A.6.6 and A.6.7 and these overrule the parameters defined in SIB type 5.

Table A.6.6: UE parameters for Random Access test

Parameter	Unit	Value
Access Service Class (ASC#0) - Persistence value	0..1	1
Maximum number of preamble ramping cycles (M_{max}).		2
Maximum number of preambles in one preamble ramping cycle (Preamble Retrans Max)		12
The backoff time T_{B01} N_{B01min}=N_{B01max}	ms #TTI	N/A 10
Power step when no acquisition indicator is received (Power offset P0)	dB	3
Power offset between the last transmitted preamble and the control part of the message (Power offset P p-m)	dB	0
Maximum allowed UL TX power	dBm	21

Table A.6.7: UTRAN parameters for Random Access test

Parameter	Unit	Value
Primary CPICH DL TX power	dBm	-8
UL interference	dBm	~~-102~~-92
SIR in open loop power control (Constant value)	dB	~~0~~-10
AICH Power Offset	dB	0

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030250**

Madrid, Spain 17 - 22 February, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **546** ⌘ **rev** ⌘ Current version: **5.5.0** ⌘

*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:	⌘	Constant Value in Random Access Test requirements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
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 Table A.6.7, the value of the parameter “Constant Value” in Random Access Tests is outside of range specified in TS25.331.
Summary of change:	⌘	In Table A.6.7, the value of the parameter “Constant Value” in Random Access Tests changed to “–10”, so that the value is in the specified range of TS25.331. The value of the parameter “UL interference” is changed accordingly to keep the Preamble_Initial_Power as it was.
Consequences if not approved:	⌘	Random Access Tests cannot be executed with the value of the parameter “Constant value” as currently defined.

Clauses affected:	⌘	Table A.6.7

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘ Equivalent CRs in other Releases: CR544 cat. F to 25.133 v3.12.0, CR545 cat. A to 25.133 v4.7.0, CR547 cat. A to 25.133 v6.0.0

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A.6.2 Random Access

A.6.2.1 Test Purpose and Environment

The purpose of these tests are to verify that the behaviour of the random access procedure is according to the requirements and that the PRACH power settings are within specified limits. This tests will verify the requirements in section 6.3.2.

Table A.6.5: RF Parameters for Random Access test

Parameter	Unit	Cell 1
UTRA RF Channel Number		Channel 1
CPICH_Ec/Ior	dB	-10
PCCPCH_Ec/Ior	dB	-12
SCH_Ec/Ior	dB	-12
Number of other transmitted Acquisition Indicators	-	0
AICH_Ec/Ior	dB	-10
PICH_Ec/Ior	dB	-15
OCNS_Ec/Ior when an AI is not transmitted	dB	-0.941
OCNS_Ec/Ior when an AI is transmitted	dB	-1.516
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN

The test parameters "System Information Block (SIB) type 5 (ASC #0)" defined in section 6.1 of TS34.108, shall be used in all random access tests. Crucial parameters for the test requirements are repeated in Table A.6.6 and A.6.7 and these overrule the parameters defined in SIB type 5.

Table A.6.6: UE parameters for Random Access test

Parameter	Unit	Value
Access Service Class (ASC#0) - Persistence value	0..1	1
Maximum number of preamble ramping cycles (M_{max}).		2
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The backoff time T_{B01} N_{B01min}=N_{B01max}	ms #TTI	N/A 10
Power step when no acquisition indicator is received (Power offset P0)	dB	3
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Table A.6.7: UTRAN parameters for Random Access test

Parameter	Unit	Value
Primary CPICH DL TX power	dBm	-8
UL interference	dBm	~~-102~~-92
SIR in open loop power control (Constant value)	dB	~~0~~-10
AICH Power Offset	dB	0

3GPP TSG RAN WG4 (Radio) Meeting #26 **R4-030251**

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CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **547** ⌘ **rev** ⌘ Current version: **6.0.0** ⌘

*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:	⌘	Constant Value in Random Access Test requirements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	05/03/2003
Category:	⌘	**A**
Release:	⌘	Rel-6

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Consequences if not approved:	⌘	Random Access Tests cannot be executed with the value of the parameter "Constant value" as currently defined.

Clauses affected:	⌘	Table A.6.7

Other specs affected: ⌘	Y	N	
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⌘

Other comments: ⌘ Equivalent CRs in other Releases: CR544 cat. F to 25.133 v3.12.0, CR545 cat. A to 25.133 v4.7.0, CR546 cat. A to 25.133 v5.5.0

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A.6.2 Random Access

A.6.2.1 Test Purpose and Environment

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PICH_Ec/Ior	dB	-15
OCNS_Ec/Ior when an AI is not transmitted	dB	-0.941
OCNS_Ec/Ior when an AI is transmitted	dB	-1.516
$\hat{I}_{or}/I_{oc}$	dB	0
I_{oc}	dBm/3.84 MHz	-70
CPICH_Ec/Io	dB	-13
Propagation Condition		AWGN

The test parameters "System Information Block (SIB) type 5 (ASC #0)" defined in section 6.1 of TS34.108, shall be used in all random access tests. Crucial parameters for the test requirements are repeated in Table A.6.6 and A.6.7 and these overrule the parameters defined in SIB type 5.

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Table A.6.7: UTRAN parameters for Random Access test

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AICH Power Offset	dB	0