TSG RAN Meeting #20 **RP-030210**
Hämeenlinna, Finland, 3 - 6 June, 2003

Title **CRs (R'99 and Rel-4/Rel-5/Rel-6 Category A) to TS 25.133 (2/2)**
Source **TSG RAN WG4**
Agenda Item **7.4.3**

RAN4 Tdoc	Spec	CR	R	Cat	Rel	Curr Ver	Title	Work Item
R4-020524	25.133	585		F	R99	3.13.0	Correction to RRC Re-establishment delay test case in Section A.6.1	TEI
R4-020525	25.133	586		A	Rel-4	4.8.0	Correction to RRC Re-establishment delay test case in Section A.6.1	TEI
R4-020526	25.133	587		A	Rel-5	5.6.0	Correction to RRC Re-establishment delay test case in Section A.6.1	TEI
R4-020527	25.133	588		A	Rel-6	6.1.0	Correction to RRC Re-establishment delay test case in Section A.6.1	TEI
R4-020567	25.133	589	1	F	R99	3.13.0	TGPL limitations for inter-frequency measurements	TEI
R4-020568	25.133	590	1	A	Rel-4	4.8.0	TGPL limitations for inter-frequency measurements	TEI
R4-020569	25.133	591	1	A	Rel-5	5.6.0	TGPL limitations for inter-frequency measurements	TEI
R4-020570	25.133	592	1	A	Rel-6	6.1.0	TGPL limitations for inter-frequency measurements	TEI
R4-020614	25.133	599		F	R99	3.13.0	Correction to SFN-CFN observed time difference	TEI
R4-020615	25.133	600		A	Rel-4	4.8.0	Correction to SFN-CFN observed time difference	TEI
R4-020616	25.133	601		A	Rel-5	5.6.0	Correction to SFN-CFN observed time difference	TEI
R4-020617	25.133	602		A	Rel-6	6.1.0	Correction to SFN-CFN observed time difference	TEI

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030524**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **585** ⌘ **rev** ⌘ Current version: **3.13.0** ⌘

*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 to RRC Re-establishment delay test case in Section A.6.1
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 Îor/Ioc is corrected in order to make sure that T1 can correctly implement the RRC Re-establishment delay test case.
Summary of change:	⌘	The Îor/Ioc value is corrected for T2. Now the Îor/Ioc remains constant for Cell2 although Cell1 disappears during T2. Isolated Impact Analysis: The CR does not affect UE and UTRAN implementations, since it only corrects a test case not the actual core requirement.
Consequences if not approved:	⌘	T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, this may cause a terminal fulfilling the core requirement to fail the test case.

Clauses affected:	⌘	A.6.1.1.1			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	TS34.121
		N / Y	Test specifications		
		Y / N	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR586 cat. A to 25.133 v4.8.0, CR587 cat. A to 25.133 v5.6.0, CR588 cat. A to 25.133 v6.1.0			

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.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

A.6.1.1.1 TEST 1

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.1 General test parameters for RRC re-establishment delay, Test 1

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	
Active cell, Initial condition		Cell 1	
Active cell, Final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms) Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2			Included in the monitored set
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		1	
CPICH_Ec/Ior	dB	-10		-10	
PCCPCH_Ec/Ior	dB	-12		-12	
SCH_Ec/Ior	dB	-12		-12	
PICH_Ec/Ior	dB	-15		-15	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	2,39	-Infinity	4,39	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-13	
Propagation Condition		AWGN			

A.6.1.1.2 TEST 2

The test parameters are given in table A.6.3 and table A.6.4 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.3 General test parameters for RRC re-establishment delay, Test 2

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms) Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2			Cell 2 is not included in the monitored set. Cell 2 is located on one of the 2 additional frequencies of the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		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	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3,35	-Infinity	-Infinity	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-Infinity	-13
Propagation Condition		AWGN			

A.6.1.2 Test Requirements

A.6.1.2.1 Test 1

The Re-establishment delay $T_{RE\text{-}ESTABLISH}$ to a known cell shall be less than 1.9 s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}KNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}$= 160ms+$(N_{313}-1)$*10ms+$T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\_REQ\text{-}KNOWN}$=50ms+$T_{search}$ + T_{SI} + T_{RA},

N_{313}= 20

T_{313}= 0s

T_{search}= 100ms

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

This gives a total of 1820ms, allow 1.9s in the test case.

A.6.1.2.2 Test 2

The Re-establishment delay to an unknown cell shall be less than 4.2 s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}$= 160ms+$(N_{313}-1)$*10ms+$T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}$=50ms+$T_{search}$*NF + T_{SI} + T_{RA},

N_{313}= 20

T_{313}= 0s

T_{search}= 800ms

NF is the number of different frequencies in the monitored set. 3 frequencies are assumed in this test case.

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms).1280 ms is assumed in this test case.

This gives a total of 4120ms, allow 4.2s in the test case.

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030525**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **586** ⌘ **rev** ⌘ Current version: **4.8.0** ⌘

*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 to RRC Re-establishment delay test case in Section A.6.1
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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:	⌘	The Îor/Ioc is corrected in order to make sure that T1 can correctly implement the RRC Re-establishment delay test case.
Summary of change:	⌘	The Îor/Ioc value is corrected for T2. Now the Îor/Ioc remains constant for Cell2 although Cell1 disappears during T2. Isolated Impact Analysis: The CR does not affect UE and UTRAN implementations, since it only corrects a test case not the actual core requirement.
Consequences if not approved:	⌘	T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, this may cause a terminal fulfilling the core requirement to fail the test case.

Clauses affected:	⌘	A.6.1.1.1			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	TS34.121
		☐ / ☒			
		☒ / ☐	Test specifications		
		☐ / ☒	O&M Specifications		
Other comments:	⌘	Equivalent CRs in other Releases: CR585 cat. F to 25.133 v3.13.0, CR587 cat. A to 25.133 v5.6.0, CR588 cat. A to 25.133 v6.1.0			

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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.

A.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

A.6.1.1.1 TEST 1

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.1 General test parameters for RRC re-establishment delay, Test 1

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2			Included in the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		1	
CPICH_Ec/Ior	dB	-10		-10	
PCCPCH_Ec/Ior	dB	-12		-12	
SCH_Ec/Ior	dB	-12		-12	
PICH_Ec/Ior	dB	-15		-15	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	2,39	-Infinity	4,39	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-13	
Propagation Condition		AWGN			

A.6.1.1.2 TEST 2

The test parameters are given in table A.6.3 and table A.6.4 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.3: General test parameters for RRC re-establishment delay, Test 2

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2			Cell 2 is not included in the monitored set. Cell 2 is located on one of the 2 additional frequencies of the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		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	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3,35	-Infinity	-Infinity	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-Infinity	-13
Propagation Condition		AWGN			

A.6.1.2 Test Requirements

A.6.1.2.1 Test 1

The Re-establishment delay $T_{RE\text{-}ESTABLISH}$ to a known cell shall be less than 1.9s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}KNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}$ $=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\_REQ\text{-}KNOWN}$ $=50ms+T_{search} + T_{SI} + T_{RA}$,

N_{313} $=20$

T_{313} $=0s$

T_{search} $=100ms$

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

This gives a total of 1820ms, allow 1.9s in the test case.

A.6.1.2.2 Test 2

The Re-establishment delay to an unknown cell shall be less than 4.2s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}$ $=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}$ $=50ms+T_{search}*NF + T_{SI} + T_{RA}$,

N_{313} =20

T_{313} =0s

T_{search} =800ms

NF is the number of different frequencies in the monitored set. 3 frequencies are assumed in this test case.

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms).1280 ms is assumed in this test case.

This gives a total of 4120ms, allow 4.2s in the test case.

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030526**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **587** ⌘ **rev** ⌘ Current version: **5.6.0** ⌘

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

Title:	⌘	Correction to RRC Re-establishment delay test case in Section A.6.1
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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:	⌘	The Îor/Ioc is corrected in order to make sure that T1 can correctly implement the RRC Re-establishment delay test case.
Summary of change:	⌘	The Îor/Ioc value is corrected for T2. Now the Îor/Ioc remains constant for Cell2 although Cell1 disappears during T2.
Consequences if not approved:	⌘	T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, this may cause a terminal fulfilling the core requirement to fail the test case.

Clauses affected:	⌘	A.6.1.1.1

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	TS34.121
	X		Test specifications	
		X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR585 cat. F to 25.133 v3.13.0, CR586 cat. A to 25.133 v4.8.0, CR588 cat. A to 25.133 v6.1.0

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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.

A.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

A.6.1.1.1 TEST 1

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.1 General test parameters for RRC re-establishment delay, Test 1

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2			Included in the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		1	
CPICH_Ec/Ior	dB	-10		-10	
PCCPCH_Ec/Ior	dB	-12		-12	
SCH_Ec/Ior	dB	-12		-12	
PICH_Ec/Ior	dB	-15		-15	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	2,39	-Infinity	4,39	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-13	
Propagation Condition		AWGN			

A.6.1.1.2 TEST 2

The test parameters are given in table A.6.3 and table A.6.4 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.3 General test parameters for RRC re-establishment delay, Test 2

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2			Cell 2 is not included in the monitored set. Cell 2 is located on one of the 2 additional frequencies of the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		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	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3,35	-Infinity	-Infinity	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-Infinity	-13
Propagation Condition		AWGN			

A.6.1.2 Test Requirements

A.6.1.2.1 Test 1

The Re-establishment delay $T_{RE\text{-}ESTABLISH}$ to a known cell shall be less than 1.9s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}KNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\_REQ\text{-}KNOWN}=50ms+T_{search} + T_{SI} + T_{RA}$,

$N_{313}=20$

$T_{313}=0s$

$T_{search}=100ms$

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

This gives a total of 1820ms, allow 1.9s in the test case.

A.6.1.2.2 Test 2

The Re-establishment delay to an unknown cell shall be less than 4.2s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}=50ms+T_{search}*NF + T_{SI} + T_{RA}$,

$N_{313}=20$

$T_{313}=0s$

$T_{search}=800ms$

NF is the number of different frequencies in the monitored set. 3 frequencies are assumed in this test case.

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms).1280 ms is assumed in this test case.

This gives a total of 4120ms, allow 4.2s in the test case.

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030527**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **588** ⌘ **rev** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

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

Title:	⌘	Correction to RRC Re-establishment delay test case in Section A.6.1
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 Îor/Ioc is corrected in order to make sure that T1 can correctly implement the RRC Re-establishment delay test case.
Summary of change:	⌘	The Îor/Ioc value is corrected for T2. Now the Îor/Ioc remains constant for Cell2 although Cell1 disappears during T2.
Consequences if not approved:	⌘	T1 may not be able to implement the test case correctly when also test tolerances caused by test equipment uncertainties are applied. Furthernore, this may cause a terminal fulfilling the core requirement to fail the test case.

Clauses affected:	⌘	A.6.1.1.1

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	TS34.121
	X		Test specifications	
		X	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR585 cat. F to 25.133 v3.13.0, CR586 cat. A to 25.133 v4.8.0, CR587 cat. A to 25.133 v5.6.0

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.6 RRC Connection Control

A.6.1 RRC Re-establishment delay

A.6.1.1 Test Purpose and Environment

The purpose is to verify that the RRC re-establishment delay is within the specified limits. These tests will verify the requirements in section 6.1.2.

A.6.1.1.1 TEST 1

The test parameters are given in table A.6.1 and table A.6.2 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consist of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.1 General test parameters for RRC re-establishment delay, Test 1

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall only include intra frequency neighbours.
Cell 2			Included in the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.2 Cell specific parameters for RRC re-establishment delay test, Test 1

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		1	
CPICH_Ec/Ior	dB	-10		-10	
PCCPCH_Ec/Ior	dB	-12		-12	
SCH_Ec/Ior	dB	-12		-12	
PICH_Ec/Ior	dB	-15		-15	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	2,39	-Infinity	4,39	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-13	
Propagation Condition		AWGN			

A.6.1.1.2 TEST 2

The test parameters are given in table A.6.3 and table A.6.4 below. In the measurement control information it is indicated to the UE that periodic reporting shall be used. The test consists of 2 successive time periods, with a time duration of T1 and T2 respectively. At the start of time period T2, the dedicated channel is removed.

Table A.6.3 General test parameters for RRC re-establishment delay, Test 2

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	
Active cell, initial condition		Cell 1	
Active cell, final condition		Cell 2	
N313		20	
N315		1	
T313	Seconds	0	
T_{SI}	ms	1280	Time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). Note: Since 1280 ms is one of the typical values for repeating system information blocks, T_{SI} of 1280 ms could be increased by the RRC procedure delay in order to allow the SIB repetition period of 1280 ms.
Monitored cell list size		24	Monitored set shall include 2 additional frequencies.
Cell 2			Cell 2 is not included in the monitored set. Cell 2 is located on one of the 2 additional frequencies of the monitored set.
Reporting frequency	Seconds	4	
T1	s	10	
T2	s	6	

Table A.6.4 Cell specific parameters for RRC re-establishment delay test, Test 2

Parameter	Unit	Cell 1		Cell 2	
		T1	T2	T1	T2
Cell Frequency	ChNr	1		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	
DCH_Ec/Ior	dB	-17	-Infinity	Not applicable	
OCNS_Ec/Ior	dB	-1.049	-0.941	-0.941	
$\hat{I}_{or}/I_{oc}$	dB	-3,35	-Infinity	-Infinity	0,02
I_{oc}	dBm/ 3.84 MHz	-70			
CPICH_Ec/Io	dB	-15	-Infinity	-Infinity	-13
Propagation Condition		AWGN			

A.6.1.2 Test Requirements

A.6.1.2.1 Test 1

The Re-establishment delay $T_{RE\text{-}ESTABLISH}$ to a known cell shall be less than 1.9s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}KNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\_REQ\text{-}KNOWN}=50ms+T_{search} + T_{SI} + T_{RA}$,

$N_{313}=20$

$T_{313}=0s$

$T_{search}=100ms$

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms). 1280 ms is assumed in this test case.

This gives a total of 1820ms, allow 1.9s in the test case.

A.6.1.2.2 Test 2

The Re-establishment delay to an unknown cell shall be less than 4.2s.

The rate of correct RRC re-establishments observed during repeated tests shall be at least 90%.

NOTE: The Re-establishment delay in this case can be expressed as

$$T_{RE\text{-}ESTABLISH} = T_{RRC\text{-}RE\text{-}ESTABLISH} + T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}.$$

where

$T_{RRC\text{-}RE\text{-}ESTABLISH}=160ms+(N_{313}-1)*10ms+T_{313}$

$T_{UE\text{-}RE\text{-}ESTABLISH\text{-}REQ\text{-}UNKNOWN}=50ms+T_{search}*NF + T_{SI} + T_{RA}$,

$N_{313}=20$

$T_{313}=0s$

$T_{search}=800ms$

NF is the number of different frequencies in the monitored set. 3 frequencies are assumed in this test case.

T_{RA} = The additional delay caused by the random access procedure. 40 ms is assumed in this test case.

T_{SI} is the time required for receiving all the relevant system information data according to the reception procedure and the RRC procedure delay of system information blocks defined in 25.331 for a UTRAN cell (ms).1280 ms is assumed in this test case.

This gives a total of 4120ms, allow 4.2s in the test case.

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **589** ⌘ **rev** **1** ⌘ Current version: **3.13.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	TGPL limitations for inter-frequency measurements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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: ⌘ Currently TS25.331 defines a large value range for the compressed mode parameter TGPL. Some of the highest values are not realistic in any environments and thereby they only cause unnecessary UE complexity and delay in UE testing.

Summary of change: ⌘

A new column in Table 8.1 has been added with the parameter 'Max TGPL' in order to limit the maximum TGPL values for which the performance requirements are applicable.

Isolated Impact Analysis:

No changes are required in the UE.

In order that the UE performance requirements apply the UTRAN must provide compressed mode patterns with TGPL value within the defined limit Max TGPL.

Consequences if not approved: ⌘ Current specification will contain Compressed Mode pattern configurations that would never be used in any deployment scenario. This can cause unnecessary UE complexity and delay in UE testing.

Clauses affected: ⌘ 8.1.2.3

Other specs affected: ⌘

Y	N		
	X	Other core specifications	⌘
Y		Test specifications	TS34.121
	N	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR590r1 cat. A to 25.133 v4.8.0, CR591r1 cat. A to 25.133 v5.6.0, CR592r1 cat. A to 25.133 v6.1.0

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.

8.1.2.3 FDD inter frequency measurements

In the CELL_DCH state when a transmission gap pattern sequence with the "FDD measurements" purpose is provided by the network the UE shall continuously measure identified inter frequency cells and search for new inter frequency cells indicated in the measurement control information.

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose FDD measurement using the following combinations for TGL1, TGL2, ~~and~~ TGD and Max TGPL:

Table 8.1

TGL1 [slots]	TGL2 [slots]	TGD [slots]	Max TGPL [frames]
7	-	undefined	18
14	-	undefined	36
10	-	Undefined	24
7	7	15…269	18 + ceil(TGD/15)
14	14	4~~1~~5…269	36 + ceil(TGD/15)
~~10~~	~~5~~	~~15…269~~	

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **590** ⌘ **rev** **1** ⌘ Current version: **4.8.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	TGPL limitations for inter-frequency measurements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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: ⌘ Currently TS25.331 defines a large value range for the compressed mode parameter TGPL. Some of the highest values are not realistic in any environments and thereby they only cause unnecessary UE complexity and delay in UE testing.

Summary of change: ⌘

A new column in Table 8.1 has been added with the parameter 'Max TGPL' in order to limit the maximum TGPL values for which the performance requirements are applicable.

Isolated Impact Analysis:

No changes are required in the UE.

In order that the UE performance requirements apply the UTRAN must provide compressed mode patterns with TGPL value within the defined limit Max TGPL.

Consequences if not approved: ⌘ Current specification will contain Compressed Mode pattern configurations that would never be used in any deployment scenario. This can cause unnecessary UE complexity and delay in UE testing.

Clauses affected: ⌘ 8.1.2.3

Other specs affected: ⌘

Y	N		
	X	Other core specifications	⌘
Y		Test specifications	TS34.121
	N	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR589r1 cat. F to 25.133 v3.13.0, CR591r1 cat. A to 25.133 v5.6.0, CR592r1 cat. A to 25.133 v6.1.0

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.

8.1.2.3 FDD inter frequency measurements

In the CELL_DCH state when a transmission gap pattern sequence with the "FDD measurements" purpose is provided by the network the UE shall continuously measure identified inter frequency cells and search for new inter frequency cells indicated in the measurement control information.

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose FDD measurement using the following combinations for TGL1, TGL2, ~~and~~ TGD and Max TGPL:

Table 8.1

TGL1 [slots]	TGL2 [slots]	TGD [slots]	Max TGPL [frames]
7	-	undefined	18
14	-	undefined	36
10	-	Undefined	24
7	7	15…269	18 + ceil(TGD/15)
14	14	4~~1~~5…269	36 + ceil(TGD/15)
~~10~~	~~5~~	~~15…269~~	

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **591** ⌘ **rev** **1** ⌘ Current version: **5.6.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	TGPL limitations for inter-frequency measurements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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: ⌘ Currently TS25.331 defines a large value range for the compressed mode parameter TGPL. Some of the highest values are not realistic in any environments and thereby they only cause unnecessary UE complexity and delay in UE testing.

Summary of change: ⌘

A new column in Table 8.1 has been added with the parameter 'Max TGPL' in order to limit the maximum TGPL values for which the performance requirements are applicable.

Isolated Impact Analysis:

No changes are required in the UE.

In order that the UE performance requirements apply the UTRAN must provide compressed mode patterns with TGPL value within the defined limit Max TGPL.

Consequences if not approved: ⌘ Current specification will contain Compressed Mode pattern configurations that would never be used in any deployment scenario. This can cause unnecessary UE complexity and delay in UE testing.

Clauses affected: ⌘ 8.1.2.3

Other specs affected: ⌘

Y	N		
	X	Other core specifications	⌘
Y		Test specifications	TS34.121
	N	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR589r1 cat. F to 25.133 v3.13.0, CR590r1 cat. A to 25.133 v4.8.0, CR592r1 cat. A to 25.133 v6.1.0

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.

8.1.2.3 FDD inter frequency measurements

In the CELL_DCH state when a transmission gap pattern sequence with the "FDD measurements" purpose is provided by the network the UE shall continuously measure identified inter frequency cells and search for new inter frequency cells indicated in the measurement control information.

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose FDD measurement using the following combinations for TGL1, TGL2, ~~and~~ TGD and Max TGPL:

Table 8.1

TGL1 [slots]	TGL2 [slots]	TGD [slots]	Max TGPL [frames]
7	-	undefined	18
14	-	undefined	36
10	-	Undefined	24
7	7	15…269	18 + ceil(TGD/15)
14	14	45…269	36 + ceil(TGD/15)
~~10~~	~~5~~	~~33…269~~	

3GPP TSG RAN WG4 (Radio) Meeting #27 *R4-030570*
Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **592** ⌘ **rev** **1** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	TGPL limitations for inter-frequency measurements
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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: ⌘ Currently TS25.331 defines a large value range for the compressed mode parameter TGPL. Some of the highest values are not realistic in any environments and thereby they only cause unnecessary UE complexity and delay in UE testing.

Summary of change: ⌘

A new column in Table 8.1 has been added with the parameter 'Max TGPL' in order to limit the maximum TGPL values for which the performance requirements are applicable.

Isolated Impact Analysis:

No changes are required in the UE.

In order that the UE performance requirements apply the UTRAN must provide compressed mode patterns with TGPL value within the defined limit Max TGPL.

Consequences if not approved: ⌘ Current specification will contain Compressed Mode pattern configurations that would never be used in any deployment scenario. This can cause unnecessary UE complexity and delay in UE testing.

Clauses affected: ⌘ 8.1.2.3

Other specs affected: ⌘

Y	N		
	X	Other core specifications	⌘
Y		Test specifications	TS34.121
	N	O&M Specifications	

Other comments:	⌘	Equivalent CRs in other Releases: CR589r1 cat. F to 25.133 v3.13.0, CR590r1 cat. A to 25.133 v4.8.0, CR591r1 cat. A to 25.133 v5.6.0

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.

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

8.1.2.3 FDD inter frequency measurements

In the CELL_DCH state when a transmission gap pattern sequence with the "FDD measurements" purpose is provided by the network the UE shall continuously measure identified inter frequency cells and search for new inter frequency cells indicated in the measurement control information.

In order for the requirements in the following subsections to apply the UTRAN must provide a transmission gap pattern sequence with measurement purpose FDD measurement using the following combinations for TGL1, TGL2, ~~and~~ TGD and Max TGPL:

Table 8.1

TGL1 [slots]	TGL2 [slots]	TGD [slots]	Max TGPL [frames]
7	-	undefined	18
14	-	undefined	36
10	-	Undefined	24
7	7	15…269	18 + ceil(TGD/15)
14	14	45…269	36 + ceil(TGD/15)
~~10~~	~~5~~	~~33…269~~	

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030614**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **599** ⌘ **rev** ⌘ Current version: **3.13.0** ⌘

*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 to SFN-CFN observed time difference
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 25.215 section 5.1.8, SFN-CFN observed time difference is not applicable for CELL_FACH state.
Summary of change:	⌘	The CELL_FACH state have been removed from SFN-CFN observed time difference in intra frequency and inter frequency measurement requirements.
Consequences if not approved:	⌘	The requirements for SFN-CFN observed time difference would not be aligned with the UE measurement abilities defined in 25.215. Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.

Clauses affected:	⌘	9.1.7

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: CR600 cat. A to 25.133 v4.8.0, CR601 cat. A to 25.133 v5.6.0, CR602 cat. A to 25.133 v6.1.0

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

9.1.7 SFN-CFN observed time difference

Note: This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

9.1.7.1 Intra frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.2. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.2.~~

The accuracy requirement in table 9.16 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{P-CCPCH\_E_c}{I_{or}}\right)\right|_{in\ dB}$$ is low enough to ensure successful SFN decoding.

Table 9.16

Parameter	Unit	Accuracy [chip]	Conditions
			Io [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-94...-50

9.1.7.2 Inter frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.3. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.3.~~

The accuracy requirement in table 9.17 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

| Channel 1_Io|$_{dBm/3.84\ MHz}$ -Channel 2_Io|$_{dBm/3.84\ MHz}$ | ≤ 20 dB.

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030615**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **600** ⌘ **rev** ⌘ Current version: **4.8.0** ⌘

*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 to SFN-CFN observed time difference
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 25.215 section 5.1.8, SFN-CFN observed time difference is not applicable for CELL_FACH state.
Summary of change:	⌘	The CELL_FACH state have been removed from SFN-CFN observed time difference in intra frequency and inter frequency measurement requirements.
Consequences if not approved:	⌘	The requirements for SFN-CFN observed time difference would not be aligned with the UE measurement abilities defined in 25.215. Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.

Clauses affected:	⌘	9.1.7

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: CR599 cat. F to 25.133 v3.13.0, CR601 cat. A to 25.133 v5.6.0, CR602 cat. A to 25.133 v6.1.0

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

9.1.7 SFN-CFN observed time difference

Note: This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

9.1.7.1 Intra frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.2. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.2.~~

The accuracy requirement in table 9.16 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{P-CCPCH\_E_c}{I_{or}}\right)\right|_{in\ dB}$$ is low enough to ensure successful SFN decoding.

Table 9.16

Parameter	Unit	Accuracy [chip]	Conditions
			Io [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-94...-50

9.1.7.2 Inter frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.3. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.3.~~

The accuracy requirement in table 9.17 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

| Channel 1_Io|$_{dBm/3.84\ MHz}$ -Channel 2_Io|$_{dBm/3.84\ MHz}$ | ≤ 20 dB.

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030616**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **601** ⌘ **rev** ⌘ Current version: **5.6.0** ⌘

*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 to SFN-CFN observed time difference
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 25.215 section 5.1.8, SFN-CFN observed time difference is not applicable for CELL_FACH state.
Summary of change:	⌘	The CELL_FACH state have been removed from SFN-CFN observed time difference in intra frequency and inter frequency measurement requirements.
Consequences if not approved:	⌘	The requirements for SFN-CFN observed time difference would not be aligned with the UE measurement abilities defined in 25.215. Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.

Clauses affected:	⌘	9.1.7

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: CR599 cat. F to 25.133 v3.13.0, CR600 cat. A to 25.133 v4.8.0, CR602 cat. A to 25.133 v6.1.0

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.

9.1.7 SFN-CFN observed time difference

Note: This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

9.1.7.1 Intra frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.2. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.2.~~

The accuracy requirement in table 9.16 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{P-CCPCH\_E_c}{I_{or}}\right)\right|_{in\ dB}$$ is low enough to ensure successful SFN decoding.

Table 9.16

Parameter	Unit	Accuracy [chip]	Conditions
			Io [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-94...-50

9.1.7.2 Inter frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.3. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.3.~~

The accuracy requirement in table 9.17 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

| Channel 1_Io|$_{dBm/3.84\ MHz}$ -Channel 2_Io|$_{dBm/3.84\ MHz}$ | ≤ 20 dB.

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

3GPP TSG RAN WG4 (Radio) Meeting #27 **R4-030617**

Paris, France 19 - 23 May, 2003

CR-Form-v7

CHANGE REQUEST

⌘ **25.133** **CR** **602** ⌘ **rev** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

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

Title:	⌘	Correction to SFN-CFN observed time difference
Source:	⌘	RAN WG4
Work item code:	⌘	TEI
Date:	⌘	27/05/2003
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 25.215 section 5.1.8, SFN-CFN observed time difference is not applicable for CELL_FACH state.
Summary of change:	⌘	The CELL_FACH state have been removed from SFN-CFN observed time difference in intra frequency and inter frequency measurement requirements.
Consequences if not approved:	⌘	The requirements for SFN-CFN observed time difference would not be aligned with the UE measurement abilities defined in 25.215. Isolated impact: This CR has an isolated impact, as this is a correction of a misalignment between specifications.

Clauses affected:	⌘	9.1.7

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: CR599 cat. F to 25.133 v3.13.0, CR600 cat. A to 25.133 v4.8.0, CR601 cat. A to 25.133 v5.6.0

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

9.1.7 SFN-CFN observed time difference

Note: This measurement is for handover timing purposes to identify active cell and neighbour cell time difference.

9.1.7.1 Intra frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.2. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.2.~~

The accuracy requirement in table 9.16 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{P-CCPCH\_E_c}{I_{or}}\right)\right|_{in\ dB}$$ is low enough to ensure successful SFN decoding.

Table 9.16

Parameter	Unit	Accuracy [chip]	Conditions
			Io [dBm/3.84 MHz]
SFN-CFN observed time difference	chip	± 1	-94...-50

9.1.7.2 Inter frequency measurement requirement

The measurement period for CELL_DCH state can be found in sub clause 8.1.2.3. ~~The measurement period for CELL_FACH state can be found in sub clause 8.4.2.3.~~

The accuracy requirement in table 9.17 is valid under the following conditions:

CPICH_RSCP1,2|$_{dBm}$ ≥ -114 dBm.

$$\left| CPICH\_RSCP1\Big|_{in\ dBm} - CPICH\_RSCP2\Big|_{in\ dBm} \right| \le 20dB$$

| Channel 1_Io|$_{dBm/3.84\ MHz}$ -Channel 2_Io|$_{dBm/3.84\ MHz}$ | ≤ 20 dB.

$$\left.\frac{I_o}{\left(\hat{I}_{or}\right)}\right|_{in\ dB} - \left.\left(\frac{CPICH\_E_c}{I_{or}}\right)\right|_{in\ dB} \le 20dB$$