TSG-RAN Meeting #10 *RP-000573*
Bangkok, Thailand, 6 - 8 December 2000

Title: **Agreed CRs to TS 25.331 (4)**

Source: **TSG-RAN WG2**

Agenda item: **5.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Subject	Cat	Version	Versio
R2-002319	agreed	25.331	625		Correction to PDCP sequence number exchange during hard handover	F	3.4.1	3.5.0
R2-002459	agreed	25.331	628	2	DCH Quality Target	F	3.4.1	3.5.0
R2-002453	agreed	25.331	629	1	Simultaneous release of RBs and signalling connection	F	3.4.1	3.5.0
R2-002334	agreed	25.331	630		Correction on Transport Channel Reconfiguration	F	3.4.1	3.5.0
R2-002351	agreed	25.331	631		Limitation of DRX cycle length	F	3.4.1	3.5.0
R2-002369	agreed	25.331	633		Support for improved compressed mode handling for TDD measurements	F	3.4.1	3.5.0
R2-002372	agreed	25.331	636		Usage of secondary CPICH and secondary scrambling code	F	3.4.1	3.5.0
R2-002406	agreed	25.331	639		Expiration time of SIB type 7, 14	F	3.4.1	3.5.0
R2-002442	agreed	25.331	640		Correction to integrity protection	F	3.4.1	3.5.0

3GPP TSG-RAN WG2 Meeting #17
Sophia Antipolis, France, 13th-17th, November

Tdoc R2-002319

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **625** ⌘ rev **-** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Correction to PDCP sequence number exchange during hard-HO
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ 14.11.00
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	In hard-HO case it is possible that one of the messages RB setup, RB release, RB reconfiguration, Transport channel reconfiguration or Physical channel reconfigurationis sent to the UE. From these five messages RB setup and RB release do not contain PDCP information that is necessary for the lossless RBs.
Summary of change:	⌘	Add PDCP information to RB setup, RB setup complete, RB release and RB release complete
Consequences if not approved:	⌘	In hard-HO case it can not be ensured that necessary PDCP sequence numbers will be exchanged between UTRAN and UE.

Clauses affected:	⌘	10.2.28, 10.2.29, 10.2.31, 10.2.32, 11.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

10.2.28 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Integrity check info	CH		Integrity check info 10.3.3.14	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.17	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.45	
New C-RNTI	OP		C-RNTI 10.3.3.8	
DRX Indicator	MP		DRX Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.47	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	
RB information to release list	MP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation

Information Element/Group name	Need	Multi	Type and reference	Semantics description
>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>> Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info	Default value is the existing value of frequency information

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			10.3.6.35	
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.38	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			At least one spare choice (criticality = reject) required
>Uplink DPCH info			Uplink DPCH info 10.3.6.86	
>PRACH Info (for RACH)			PRACH Info (for RACH) 10.3.6.51	
>CPCH SET Info			CPCH SET Info 10.3.6.12	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.29	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.23	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.26	

10.2.29 RADIO BEARER RELEASE COMPLETE

This message is sent from the UE when radio bearer release has been completed.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE information elements				
Integrity check info	CH		Integrity check info 10.3.3.14	Integrity check info is included if integrity protection is applied
Uplink integrity protection activation info	OP		Integrity protection activation info 10.3.3.15	
CHOICE mode	MP			
>FDD				(no data)
>TDD				
>>Uplink Timing Advance	OP		Uplink Timing Advance 10.3.6.93	This information element shall be present in case of handover procedure if timing advance is enabled. Calculated timing advance value for the new cell after handover in a synchronous TDD network
RB Information elements				
Radio bearer uplink ciphering activation time info	OP		RB activation time info 10.3.4.13	
RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	

10.2.31 RADIO BEARER SETUP

This message is sent by UTRAN to the UE to establish new radio bearer(s). It can also include modifications to the configurations of transport channels and/or physical channels.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Integrity check info	CH		Integrity check info 10.3.3.14	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.17	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.45	
New C-RNTI	OP		C-RNTI 10.3.3.8	
DRX Indicator	MP		DRX Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.47	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
Signalling RB information to setup list	OP	1 to <maxSRBsetup>		For each signalling radio bearer established
>Signalling RB information to setup	MP		Signalling RB information to setup 10.3.4.24	
RAB information to setup list	OP	1 to <maxRABsetup>		For each RAB established
>RAB information for setup	MP		RAB information for setup 10.3.4.10	
RB information to be affected list	OP	1 to <maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
RB with PDCP information list	OP	1 to <maxRBall		This IE is needed for each RB having PDCP in the case of

Information Element/Group name	Need	Multi	Type and reference	Semantics description
		RABs>		lossless SRNS relocation
>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>> Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency	Default value is the existing

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			info 10.3.6.35	value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.38	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			At least one spare choice (criticality = reject) required
>Uplink DPCH info			Uplink DPCH info 10.3.6.86	
>PRACH Info (for RACH)			PRACH Info (for RACH) 10.3.6.51	
>CPCH SET Info			CPCH SET Info 10.3.6.12	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.29	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.23	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.26	

10.2.32 RADIO BEARER SETUP COMPLETE

This message is sent by UE to confirm the establishment of the radio bearer.

RLC-SAP: AM

Logical channel: DCCH

Direction: UE → UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE information elements				
Integrity check info	CH		Integrity check info 10.3.3.14	
Uplink integrity protection activation info	OP		Integrity protection activation info 10.3.3.15	
CHOICE mode	OP			
>FDD				(no data)
>TDD				
>>Uplink Timing Advance	OP		Uplink Timing Advance 10.3.6.93	This information element shall be present in case of handover procedure if timing advance is enabled. Calculated timing advance value for the new cell after handover in a synchronous TDD network
START	OP		START 10.3.3.36	This information element is not needed for transparent mode RBs
RB Information elements				
Radio bearer uplink ciphering activation time info	OP		RB activation time info 10.3.4.13	
RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	

```
-- **************************************************
--
-- RADIO BEARER RELEASE
--
-- **************************************************

RadioBearerRelease ::= CHOICE {
    v1                              SEQUENCE {
        v1-IEs                          RadioBearerRelease-v1-IEs,
        nonCriticalExtensions           SEQUENCE {}
    },
    criticalExtensions              SEQUENCE {}
}

RadioBearerRelease-v1-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        drx-Indicator                   DRX-Indicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
```

```
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReleaseList       RB-InformationReleaseList,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List        OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                         NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

-- **************************************************
--
-- RADIO BEARER RELEASE COMPLETE
--
-- **************************************************

RadioBearerReleaseComplete ::= SEQUENCE {
    -- User equipment IEs
        ul-IntegProtActivationInfo      IntegrityProtActivationInfo         OPTIONAL,
        -- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
        ul-TimingAdvance                UL-TimingAdvance                    OPTIONAL,
    -- Radio bearer IEs
        rb-UL-CiphActivationTimeInfo    RB-ActivationTimeInfo               OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}

-- **************************************************
--
-- RADIO BEARER SETUP
--
-- **************************************************

RadioBearerSetup ::= CHOICE {
    v1                              SEQUENCE {
        v1-IEs                          RadioBearerSetup-v1-IEs,
        nonCriticalExtensions           SEQUENCE {}
    },
    criticalExtensions              SEQUENCE {}
}

RadioBearerSetup-v1-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        drx-Indicator                   DRX-Indicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
```

```
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- Radio bearer IEs
        srb-InformationSetupList        SRB-InformationSetupList            OPTIONAL,
        rab-InformationSetupList        RAB-InformationSetupList            OPTIONAL,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}

-- **************************************************
--
-- RADIO BEARER SETUP COMPLETE
--
-- **************************************************

RadioBearerSetupComplete ::= SEQUENCE {
    -- User equipment IEs
        ul-IntegProtActivationInfo      IntegrityProtActivationInfo         OPTIONAL,
        -- TABULAR: UL-TimingAdvance is applicable for TDD mode only.
        ul-TimingAdvance                UL-TimingAdvance                    OPTIONAL,
        start               START                   OPTIONAL,
    -- Radio bearer IEs
        rb-UL-CiphActivationTimeInfo    RB-ActivationTimeInfo               OPTIONAL,
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}
```

3GPP TSG-RAN2 Meeting #17
Sophia-Antipolis, France, 13th-17th November

Tdoc 2459

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **628** ⌘ rev **r2** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network ☐ Core Network ☐

Title:	⌘	DCH quality target
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ November, 14th
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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.

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

Reason for change:	⌘	Downlink outer-loop control can be executed only when BLER measurement is possible. BLER measurement is possible only when CRC is always included in TFs. However, for infrequent data transmission, for example, in stand-alone DCCH in CELL_DCH state, these information will become large overhead. Considering that the lifetime of the DPCH for stand-alone DCCH is relatively short and reducing the overhead, it is preferable to define that in which case DL outer-loop power control is executed.
Summary of change:	⌘	- This CR proposes additional sentences to clarify in which cases a DCH can be used for Downlink power control.
Consequences if not approved:	⌘	In stand-alone DCCH in CELL_DCH state, either overhead will become large or the outer-loop TPC might become unstable.

Clauses affected:	⌘	8.6.5.4		
Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications	⌘	
Other comments:	⌘			

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downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

8.6.5 Transport channel information elements

8.6.5.4 DCH quality target

At PhyCH establishment, the UE sets an initial downlink target SIR value based on the received IEs "DCH quality target".

~~The UE sets~~The "DCH quality target" IE for a given DCH shall be used by the UE~~as a target quality~~to set the target SIR for ~~the~~~~of the~~ downlink ~~outer-loop~~ power control.~~The downlink outer-loop power control is only executed~~ in case BLER measurement is ~~allowed~~possible for this DCH. ~~BLER measurement is allowed in case that;~~i;e.
CRC exists in all transport formats in downlink TFS, ~~or~~
~~IE "TFCI existence" in IE "Downlink DPCH info common for all RL" is set to "True".~~

3GPP TSG-RAN2 Meeting #17
Sophia-Antipolis, France, 13th-17th November

Tdoc 2453

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **629** ⌘ rev **r1** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☒ Radio Access Network ☐ Core Network ☐

Title:	⌘	Simultaneous release of RBs and signalling connection
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ November, 14th
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	In the current TS25.331, when the UTRAN wants to release radio bearers and a signaling connection, UTRAN has to send RB RELEASE message and SIGNALLING CONNECTION RELEASE message sequentially. In order to make more efficient, it is proposed to add an information for signaling connection release in RB RELEASE message to release signaling connection simultaneously.
Summary of change:	⌘	Add an optional IE “Signaling Connection release indication”
Consequences if not approved:	⌘	Waste of radio capacity and the time needed for these procedures.

Clauses affected:	⌘	10.2.28, 11.2
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

8.6.1 CN information elements

8.6.1.1 CN domain specific DRX cycle length coefficient

UE updates CN domain specific DRX cycle length coefficient as specified in [4]. The UE shall use it to calculate the CN domain specific DRX cycle length, according to the following:

- set k to the value of the IE "CN domain specific DRX cycle length coefficient".
- store the result of 2^k *PBP, where PBP is the Paging Block Periodicity, as the CN domain specific DRX cycle length for the CN domain indicated by the IE "CN domain identity". For FDD PBP=1.

The UE shall determine its idle mode paging occasions and PICH monitoring occasions for that CN domain, according to TS 25.304, based on the stored CN domain specific DRX cycle length, when using DRX in idle mode.

8.6.1.2 NAS system information

If the IE "CN domain identity" and the IE "NAS system information" are present in a message, the UE shall forward the content of the IE "NAS system information" to the non-access stratum entity of the UE indicated by the IE "CN domain identity".

8.6.1.3 Signaling connection release indication

If the IE" Signaling Connection release indication" is present in a message, the UE shall release all the radio bearers belonging to the indicated domain, and simultaneously, indicate release of the signaling connection to the upper layer entity of the indicated domain.

10.2.28 RADIO BEARER RELEASE

This message is used by UTRAN to release a radio bearer. It can also include modifications to the configurations of transport channels and/or physical channels. It can simultaneously indicate release of a signaling connection when UE is connected to more than one CN domain.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Integrity check info	CH		Integrity check info 10.3.3.14	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.17	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.45	
New C-RNTI	OP		C-RNTI 10.3.3.8	
DRX Indicator	MP		DRX Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.47	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
Signalling Connection release indication	OP		CN domain identity 10.3.1.1	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB Information Elements				
RAB information to reconfigure list	OP	1 to < maxRABsetup >		
>RAB information to reconfigure	MP		RAB information to reconfigure 10.3.4.11	
RB information to release list	MP	1 to <maxRB>		
>RB information to release	MP		RB information to release 10.3.4.19	
RB information to be affected list	OP	1 to		

Information Element/Group name	Need	Multi	Type and reference	Semantics description
		<maxRB>		
>RB information to be affected	MP		RB information to be affected 10.3.4.17	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all transport channels	OP		UL Transport channel information common for all transport channels 10.3.5.24	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted UL TrCH information	MP		Deleted UL TrCH information 10.3.5.5	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>> Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Deleted TrCH information list	OP	1 to <maxTrCH>		
>Deleted DL TrCH information	MP		Deleted DL TrCH information 10.3.5.4	
Added or Reconfigured TrCH information list	OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.35	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.38	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			At least one spare choice (criticality = reject) required
>Uplink DPCH info			Uplink DPCH info 10.3.6.86	
>PRACH Info (for RACH)			PRACH Info (for RACH) 10.3.6.51	
>CPCH SET Info			CPCH SET Info 10.3.6.12	
Downlink radio resources				
CHOICE *mode*	MP			
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH information 10.3.6.29	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.23	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link to be set-up
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.26	

11.2 PDU definitions

```
-- **************************************************
--
-- RADIO BEARER RELEASE
--
-- **************************************************

RadioBearerRelease ::= CHOICE {
    v1                              SEQUENCE {
        v1-IEs                          RadioBearerRelease-v1-IEs,
        nonCriticalExtensions           SEQUENCE {}
    },
    criticalExtensions              SEQUENCE {}
}

RadioBearerRelease-v1-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        drx-Indicator                   DRX-Indicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
        signallingConnectionRelIndication   CN-DomainIdentity               OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rab-InformationReconfigList     RAB-InformationReconfigList         OPTIONAL,
        rb-InformationReleaseList       RB-InformationReleaseList,
        rb-InformationAffectedList      RB-InformationAffectedList          OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-deletedTransChInfoList       UL-DeletedTransChInfoList           OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-DeletedTransChInfoList       DL-DeletedTransChInfoList           OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfo2List        OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
```

```
            },
            tdd                         NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}
```

3GPP TSG- RAN WG2 #17 **Tdoc R2-002334**
Sophia Antipolis, France, 13th-17th, November

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **630** ⌘ rev **-** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Correction on Transport Channel Reconfiguration
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ 14 Nov. 2000
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	In the current TRANSPORT CHANNEL RECONFIGURATION message, IEs "Added or Reconfigured TrCH information list" on uplink and downlink are defined as mandatory parameters. However, transport channel reconfiguration procedure may be used even in case of not adding or reconfiguring parameters of individual TrCH. In other words, it may be used in case of only changing "TFCS" or "TFC subset". Therefore, this CR is proposed.
Summary of change:	⌘	IE "Added or Reconfigured TrCH information list" in TRANSPORT CHANNEL RECONFIGURATION message is changed from "MP" to "OP".
Consequences if not approved:	⌘	Redundant information should be sent from UTRAN to UE.

Clauses affected:	⌘	8.6.5.1, 8.6.5.2, 10.2.51, 11.1
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

8.6.5 Transport channel information elements

8.6.5.1 Transport Format Set

If the IE "transport channel identity" and the IE "Transport format set" is included, the UE shall:

- store the transport format set for that transport channel.

If neither the IE "transport channel identity" nor the IE "Transport format set" is included, the UE shall:

-consider the stored transport format set as valid information.

If the IE "Transport format Set" has the choice "Transport channel type" set to "Dedicated transport channel", the UE shall:

- Calculate the transport block size for all transport formats in the TFS using the following

  TB size = RLC PDU size + MAC header size,

  where:

  - MAC header size is calculated according to 3GPP TS 25.321 if MAC multiplexing is used. Otherwise it is 0 bits.

8.6.5.2 Transport format combination set

If the IE "Transport format combination set" is included, the UE shall for that direction (uplink or downlink):

- remove a previously stored transport format combination set if this exists;
- store the new transport format combination set present in the IE "Transport format combination set";
- start to respect those transport format combinations.

If the IE "Transport format combination set" is not included and if there is no addition/removal/replacement of transport channels, the UE shall for that direction (uplink or downlink):

- consider a previously stored transport format combination set if this exists as valid information.

For downlink CCTrCHs if no TFCS is stored in the UE the UE shall consider all possible transport format combinations and calculate the possible TFCI values according to the IE transport format combination set.

For downlink CCTrCHs if a TFCS is stored in the UE and

- if the IE "Transport format combination set" is not included and transport channels are deleted in the message, the UE shall:
  - remove the affected transport format combinations from the transport format combination set, recalculate the TFCI values and start to respect those transport format combinations
- if the IE "Transport format combination set" is not included and transport channels are added in the message, the UE shall:
  - consider all possible new combinations to be valid and recalculate the TFCI values and start to respect those transport format combinations. In TDD the new transport format combinations are considered to belong to the TFCS with the ID 1 of DCH type.
- if the IE "Transport format combination set" is not included and transport channels are replaced the UE shall:
  - consider all possible transport format combinations to be valid and calculate the TFCI values accordingly.

8.6.5.3 Transport format combination subset

If the IE "Transport format combination subset" is included, the UE shall:

- restrict the transport format combination set in the uplink to that transport format combination subset. If the transport format combination subset indicates the "full transport format combination set" any restriction on transport format combination set is released and the UE may use the full transport format combination set.

10 Message and information element functional definition and content

10.2.51 TRANSPORT CHANNEL RECONFIGURATION

This message is used by UTRAN to configure the transport channel of a UE. This also includes a possible reconfiguration of physical channels. The message can also be used to assign a TFC subset and reconfigure physical channel.

RLC-SAP: AM or UM

Logical channel: DCCH

Direction: UTRAN → UE

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Message Type	MP		Message Type	
UE Information Elements				
Integrity check info	CH		Integrity check info 10.3.3.14	
Integrity protection mode info	OP		Integrity protection mode info 10.3.3.17	
Ciphering mode info	OP		Ciphering mode info 10.3.3.5	
Activation time	MD		Activation time 10.3.3.1	Default value is "now"
New U-RNTI	OP		U-RNTI 10.3.3.45	
New C-RNTI	OP		C-RNTI 10.3.3.8	
DRX Indicator	MP		DRX Indicator 10.3.3.10	
UTRAN DRX cycle length coefficient	MD		UTRAN DRX cycle length coefficient 10.3.3.47	Default value is the existing value of UTRAN DRX cycle length coefficient
CN Information Elements				
CN Information info	OP		CN Information info 10.3.1.3	
UTRAN mobility information elements				
URA identity	OP		URA identity 10.3.2.6	
RB information elements				
RB with PDCP information list	OP	1 to <maxRBallRABs>		This IE is needed for each RB having PDCP in the case of lossless SRNS relocation
>RB with PDCP information	MP		RB with PDCP information 10.3.4.22	
TrCH Information Elements				
Uplink transport channels				
UL Transport channel information common for all	OP		UL Transport channel	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
transport channels			information common for all transport channels 10.3.5.24	
Added or Reconfigured TrCH information list	~~MP~~OP	1 to <maxTrCH>		
>Added or Reconfigured UL TrCH information	MP		Added or Reconfigured UL TrCH information 10.3.5.2	
CHOICE *mode*	OP			
>FDD				
>>CPCH set ID	OP		CPCH set ID 10.3.5.3	
>> Added or Reconfigured TrCH information for DRAC list	OP	1 to <maxTrCH>		
>>>DRAC static information	MP		DRAC static information 10.3.5.7	
>TDD				(no data)
Downlink transport channels				
DL Transport channel information common for all transport channels	OP		DL Transport channel information common for all transport channels 10.3.5.6	
Added or Reconfigured TrCH information list	~~MP~~OP	1 to <maxTrCH>		
>Added or Reconfigured DL TrCH information	MP		Added or Reconfigured DL TrCH information 10.3.5.1	
PhyCH information elements				
Frequency info	MD		Frequency info 10.3.6.35	Default value is the existing value of frequency information
Uplink radio resources				
Maximum allowed UL TX power	MD		Maximum allowed UL TX power 10.3.6.38	Default value is the existing maximum UL TX power
CHOICE *channel requirement*	OP			At least one spare choice (criticality = reject) required
>Uplink DPCH info			Uplink DPCH info 10.3.6.86	
>PRACH Info (for RACH)			PRACH Info (for RACH) 10.3.6.51	
>CPCH SET Info			CPCH SET Info 10.3.6.12	
Downlink radio resources				
CHOICE *mode*				
>FDD				
>>Downlink PDSCH information	OP		Downlink PDSCH	

Information Element/Group name	Need	Multi	Type and reference	Semantics description
			information 10.3.6.29	
>TDD				(no data)
Downlink information common for all radio links	OP		Downlink information common for all radio links 10.3.6.23	
Downlink information per radio link list	OP	1 to <maxRL>		Send downlink information for each radio link
>Downlink information for each radio link	MP		Downlink information for each radio link 10.3.6.26	

11.1 General message structure

```
-- ************************************************
--
-- TRANSPORT CHANNEL RECONFIGURATION
--
-- ************************************************

TransportChannelReconfiguration::= CHOICE {
    v1                              SEQUENCE {
        v1-IEs                          TransportChannelReconfiguration-v1-IEs,
        nonCriticalExtensions           SEQUENCE {}
    },
    criticalExtensions              SEQUENCE {}
}

TransportChannelReconfiguration-v1-IEs ::= SEQUENCE {
    -- User equipment IEs
        integrityProtectionModeInfo     IntegrityProtectionModeInfo         OPTIONAL,
        cipheringModeInfo               CipheringModeInfo                   OPTIONAL,
        activationTime                  ActivationTime                      OPTIONAL,
        new-U-RNTI                      U-RNTI                              OPTIONAL,
        new-C-RNTI                      C-RNTI                              OPTIONAL,
        drx-Indicator                   DRX-Indicator,
        utran-DRX-CycleLengthCoeff      UTRAN-DRX-CycleLengthCoefficient    OPTIONAL,
    -- Core network IEs
        cn-InformationInfo              CN-InformationInfo                  OPTIONAL,
    -- UTRAN mobility IEs
        ura-Identity                    URA-Identity                        OPTIONAL,
    -- Radio bearer IEs
        rb-WithPDCP-InfoList            RB-WithPDCP-InfoList                OPTIONAL,
    -- Transport channel IEs
        ul-CommonTransChInfo            UL-CommonTransChInfo                OPTIONAL,
        ul-AddReconfTransChInfoList     UL-AddReconfTransChInfoList         OPTIONAL,
        modeSpecificTransChInfo         CHOICE {
            fdd                             SEQUENCE {
                cpch-SetID                      CPCH-SetID                  OPTIONAL,
                addReconfTransChDRAC-Info       DRAC-StaticInformationList  OPTIONAL
            },
            tdd                             NULL
        }                                                                   OPTIONAL,
        dl-CommonTransChInfo            DL-CommonTransChInfo                OPTIONAL,
        dl-AddReconfTransChInfoList     DL-AddReconfTransChInfoList         OPTIONAL,
    -- Physical channel IEs
        frequencyInfo                   FrequencyInfo                       OPTIONAL,
        maxAllowedUL-TX-Power           MaxAllowedUL-TX-Power               OPTIONAL,
        ul-ChannelRequirement           UL-ChannelRequirement               OPTIONAL,
        modeSpecificPhysChInfo          CHOICE {
            fdd                             SEQUENCE {
                dl-PDSCH-Information            DL-PDSCH-Information        OPTIONAL
            },
            tdd                             NULL
        },
        dl-CommonInformation            DL-CommonInformation                OPTIONAL,
        dl-InformationPerRL-List        DL-InformationPerRL-List            OPTIONAL
}
```

3GPP TSG-RAN Meeting #17
Sophia Antipolis, France, 13th – 17th November 2000

Tdoc R2-002351

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **631** ⌘ rev **-** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Limitation of DRX cycle length
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ 14. Nov 2000
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)

Reason for change:	⌘	The DRX cycle length is limited to 5.12 seconds to allow reasonable measurement intervals and cell reselection delays in idle mode, CELL_PCH and URA_PCH states.
Summary of change:	⌘	The upper limit of the CN domain specific DRX cycle length and the UTRAN DRX cycle length are changed from 12 to 9
Consequences if not approved:	⌘	

Clauses affected:	⌘	10.3.3.6, 10.3.3.47, 11.3.3
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

10.3.3.6 CN domain specific DRX cycle length coefficient

A coefficient in the formula to count the paging occasions to be used by a specific UE (specified in 25.304) .

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CN domain specific DRX cycle length coefficient	MP		Integer(6...~~9~~12)	Refers to 'k' in the formula as specified in 25.304, Discontinuous reception

10.3.3.47 UTRAN DRX cycle length coefficient

A coefficient in the formula to count the paging occasions to be used by a specific UE (specified in 25.304).

Information Element/Group name	Need	Multi	Type and reference	Semantics description
DRX cycle length coefficient	MP		Integer(3...~~9~~12)	Refers to 'k' in the formula as specified in 25.304, Discontinuous reception

11 Message and Information element abstract syntax (with ASN.1)

[…]

11.3.3 User equipment information elements

[…]

```
CN-DRX-CycleLengthCoefficient ::=   INTEGER (6..~~9~~12)
```

[…]

```
UTRAN-DRX-CycleLengthCoefficient ::= INTEGER (3..~~9~~12)
```

3GPP TSG-RAN WG2 Meeting #17
Sophia Antipolis, France 13–17 November 2000

Document R2-002369
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331	CR	633	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/CR-Form-v2.doc*

Proposed change affects: (U)SIM [ ] ME [ ] UTRAN / Radio [X] Core Network [ ]
(at least one should be marked with an X)

Source: TSG-RAN WG2 **Date:** 10/11/2000

Subject: Support for improved compressed mode handling for TDD Measurements

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: An IE “Proposed TGSN” should be introduced, to optimise the compressed mode pattern to monitor TDD cells. See the already approved R4-000904. The principles have been discussed during the WG2/WG4 meeting. The discussion paper is included.

Clauses affected: 8.6.7.5, 10.3.7.3, 10.3.7.5, 13.4.17, 11.3.7

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other GSM core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

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<--------- double-click here for help and instructions on how to create a C

8.6.7.5 Cell Reporting Quantities

If the IE "Cell Reporting Quantities" is received by the UE, the UE shall store the content of the IE "Cell Reporting Quantities" to the variable MEASUREMENT_IDENTITY.
The UE shall include measured results in MEASUREMENT REPORT as specified in the IE "Cell Reporting Quantity", except for the following case:
If the IE "Cell Identity" is set to TRUE, the UE shall:

- in CELL_FACH state:
  - report the IE "Cell Identity" that is given in System Information Block type 4 (or type 3, if System Information Block type4 is not being broadcast).
- in CELL_DCH state:
  - treat the IE as if the IE "Cell Identity" is set to FALSE.

If the IE "Proposed TGSN Reporting required" is set to TRUE, the UE shall:

- if compressed mode was used to monitor a TDD cell and the variable TGSN_REPORTED is set to FALSE
  - report the IE "Proposed TGSN" indicating the TGSN that suits best to the measured cell
  - set the variable TGSN_REPORTED to TRUE
- otherwise
  - omit the IE “Proposed TGSN”

10.3.7.3 Cell measured results

Includes non frequency related measured results for a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Cell Identity	OP		Cell Identity 10.3.2.2	
SFN-SFN observed time difference	OP		SFN-SFN observed time difference 10.3.7.88	
CFN-SFN observed time difference	OP		CFN-SFN observed time difference 10.3.7.6	Note 2
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH info	MP		Primary CPICH info 10.3.6.59	
>>CPICH Ec/N0	OP		Integer(-20..0)	In dB
>>CPICH RSCP	OP		Integer(-115..-40)	In dBm
>>Pathloss	OP		Integer(46..158)	In dB
>TDD				
>>Cell parameters Id	MP		Cell parameters Id 10.3.6.8	
>> Proposed TGSN	OP		Integer (0..14)	Proposal for the next TGSN
>>Primary CCPCH RSCP	OP		Primary CCPCH RSCP info 10.3.7.79	
>>Pathloss	OP		Integer(46..158)	In dB
>> Timeslot list	OP	1 to < maxTS>		
>>>Timeslot ISCP	MP		Timeslot ISCP Info 10.3.7.90	The UE shall report the Timeslot ISCP in the same order as indicated in the cell info

NOTE 1: Feasibility of performing these measurements with compressed mode is unclear.

10.3.7.5 Cell reporting quantities

Includes non frequency related cell reporting quantities.

For all boolean types TRUE means inclusion in the report is requested.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
SFN-SFN observed time difference	MP		Enumerated(No report, type 1, type 2)	
CFN-SFN observed time difference	MP		Boolean	
Cell Identity	MP		Boolean	
CHOICE *mode*	MP			
>FDD				
>>CPICH Ec/N0	MP		Boolean	
>>CPICH RSCP	MP		Boolean	
>>Pathloss	MP		Boolean	
>TDD				
>>Timeslot ISCP	MP		Boolean	
>> Proposed TGSN Reporting required	MP		Boolean	
>>Primary CCPCH RSCP	MP		Boolean	
>>Pathloss	MP		Boolean	

13.4.17 TGSN_REPORTED

This variable identifies whether an IE "Proposed TGSN" was reported to the UTRAN

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Proposed TGSN reported	MP		Boolean	

11.3.7 Measurement information elements

```
CellMeasuredResults ::=             SEQUENCE {
    cellIdentity                        CellIdentity                        OPTIONAL,
    sfn-SFN-ObsTimeDifference           SFN-SFN-ObsTimeDifference           OPTIONAL,
    cfn-SFN-ObsTimeDifference           CFN-SFN-ObsTimeDifference           OPTIONAL,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            primaryCPICH-Info                   PrimaryCPICH-Info,
            cpich-Ec-N0                         CPICH-Ec-N0                 OPTIONAL,
            cpich-RSCP                          CPICH-RSCP                  OPTIONAL,
            pathloss                            Pathloss                    OPTIONAL
        },
        tdd                                 SEQUENCE {
            cellParametersID                    CellParametersID,
            proposed_TGSN                       TGSN                        OPTIONAL,
            primaryCCPCH-RSCP                   PrimaryCCPCH-RSCP           OPTIONAL,
            timeslotISCP-List                   TimeslotISCP-List           OPTIONAL
        }
    }
}

CellReportingQuantities ::=         SEQUENCE {
    sfn-SFN-OTD-Type                    SFN-SFN-OTD-Type,
    cellIdentity                        BOOLEAN,
    cfn-SFN-ObsTimeDifference           BOOLEAN,
    modeSpecificInfo                    CHOICE {
        fdd                                 SEQUENCE {
            cpich-Ec-N0                         BOOLEAN,
            cpich-RSCP                          BOOLEAN,
            pathloss                            BOOLEAN
        },
        tdd                                 SEQUENCE {
            timeslotISCP                        BOOLEAN,
            proposedTGSN_ReportingRequired      BOOLEAN,
            primaryCCPCH-RSCP                   BOOLEAN,
            pathloss                            BOOLEAN
        }
    }
}
```

3GPP TSG RAN WG2 Meeting #17
Sophia Antipolis, France, 14-17 Nov. 2000

Tdoc R2-002372

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **636** ⌘ rev **-** ⌘ Current version: **3.4.1** ⌘

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Usage of secondary CPICH and secondary scrambling code
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ 15.11.00
Category:	⌘	**F** ***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)*

Reason for change:	⌘	In RAN WG1, the unnecessary option of having secondary CPICH as a phase reference for PCH and CPCH indicator channels was removed. Thus, the primary CPICH is to be a phase reference for S-CCPCH carrying PCH, AP-AICH, CD/CA-ICH and CSICH. It was also agreed to narrow the options on scrambling codes that are used for PICH, AICH, AP-AICH, CD/CA-ICH, CSICH and S-CCPCH carrying PCH. These downlink channels are always transmitted using the primary scrambling code. RAN WG1 has requested RAN WG1 to update their signalling according to this decision and the necessary changes are proposed in this CR.
Summary of change:	⌘	The secondary scrambling code is deleted from IEs "AICH Info" and "PICH Info" and for the AP-AICH and CD/CA-ICH from IE "CPCH set info". The IE "secondary CCPCH info" is modified so that the secondary CPICH and secondary scrambling code are optional and can be sent only when the SCCPCH does not carry a PCH.
Consequences if not approved:	⌘	The UTRAN may send the UE rel. 99 RRC signalling, which requires L1 processing which is out of the scope of RAN WG1 specifications.

Clauses affected:	⌘	10.3.6.2, 10.3.6.12, 10.3.6.48. 10.3.6.70, 11.3.6
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	This CR is a consequence of the LS R2-002181 from RAN WG1 to RAN WG2.

10.3.6.2 AICH Info

NOTE: Only for FDD.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
~~Secondary scrambling code~~	~~MD~~		~~Secondary scrambling code 10.3.6.73~~	~~Default is the same scrambling code as for the Primary CPICH~~
Channelisation code	MP		Integer(0..255)	SF is fixed and equal to 256
STTD indicator	MP		STTD Indicator 10.3.6.77	
AICH transmission timing	MP		Enumerated (0, 1)	See parameter AICH_Transmission_Timing in TS 25.211

10.3.6.12 CPCH set info

NOTE: Only for FDD.

This IE may be broadcast in the System Information message or assigned by SRNC. It is pseudo-static in a cell.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CPCH set ID	MP		CPCH set ID 10.3.5.3	Indicates the ID number for a particular CPCH set allocated to a cell.
TFS	MP		Transport Format Set 10.3.5.23	Transport Format Set Information allocated to this CPCH set.
TFCS	MP		Transport Format Combination Set 10.3.5.20	Transport Format Set Information allocated to this CPCH set
AP preamble scrambling code	MP		Integer (0..79)	Preamble scrambling code for AP in UL
~~AP-AICH scrambling code~~	~~MP~~		~~Secondary Scrambling Code 10.3.6.73~~	~~Default is the same scrambling code as for the primary CPICH.~~
AP-AICH channelisation code	MP		Integer(0..255)	Channelisation code for AP-AICH in DL
CD preamble scrambling code	MP		Integer (0..79)	Preamble scrambling code for CD in UL
~~CD/CA-ICH scrambling code~~	~~MD~~		~~Secondary Scrambling Code 10.3.6.73~~	~~Default is the same scrambling code as for the primary CPICH.~~
CD/CA-ICH channelisation code	MP		Integer (0..255)	Channelisation code for CD/CA-ICH in DL
Available CD access slot subchannel	CV-CDSigPresent	1 to <maxPCPCH-CDsubCh>		Lists the set of subchannels to be used for CD access preambles. Note: if not present, all subchannels are to be used without access delays.
>CD access slot subchannel	MP		Integer (0..11)	
Available CD signatures	OP	1 to <maxPCPCH-CDsig>		Signatures for CD preamble in UL. Note: if not present, all signatures are available for use.
>CD signatures	MP		Integer (0..15)	
DeltaPp-m	MP		Integer (-10..10)	In dB. Power offset between the transmitted CD preamble and UL DPCCH of the power control preamble or message part (added to the preamble power to calculate the power of the UL DPCCH)
UL DPCCH Slot Format	MP		Enumerated (0,1,2)	Slot format for UL DPCCH in power control preamble and in message part
N_start_message	MP		Integer (1..8)	Number of Frames for start of message indication
N_EOT	MP		Integer(0...7)	Actual number of appended EOT indicators is T_EOT = N_TTI * ceil(N_EOT/N_TTI), where N_TTI is the number of

				frames per TTI and "ceil" refers to rounding up to nearest integer.
Channel Assignment Active	OP		Boolean	When present, indicates that Node B send a CA message and VCAM mapping rule (14.11) shall be used.
CPCH status indication mode	MP		Enumerated (PCPCH availability, PCPCH availability and minimum available Spreading Factor)	Defines the status information type broadcast on the CPCH Status Indication Channel (CSICH)
PCPCH Channel Info.	MP	1 to <maxPCPCHs>		
> UL scrambling code	MP		Integer (0..79)	For PCPCH message part
> DL channelisation code	MP		Integer (0…511)	For DL DPCCH for PCPCH message part
> DL scrambling code	MD		Secondary Scrambling Code 10.3.6.73	Default is the same scrambling code as for the primary CPICH.
> PCP length	MP		Enumerated (0, 8)	Indicates length of power control preamble, 0slots (no preamble used) or 8 slots
> UCSM Info	CV-NCAA			
>>Minimum Spreading Factor	MP		Integer (4,8,16,32,64,128,256)	The UE may use this PCPCH at any Spreading Factor equal to or greater than the indicated minimum Spreading Factor. The Spreading Factor for initial access is the minimum Spreading Factor.
>> NF_max	MP		Integer (1…64)	Maximum number of frames for PCPCH message part
>> Channel request parameters for UCSM	MP	1 to <maxSig>		Required in UE channel selection mode.
>>>Available AP signature	MP	1 to <maxPCPCH-APsig>		AP preamble signature codes for selection of this PCPCH channel.
>>>> AP signature	MP		Integer (0..15)	
>>>Available AP access slot subchannel	OP	1 to <maxPCPCH-APsubCh>		Lists the set of subchannels to be used for AP access preambles in combination with the above AP signature(s). Note: if not present, all subchannels are to be used without access delays.
>>>> AP access slot subchannel	MP		Integer (0..11)	
VCAM info	CV-CAA			
> Available Minimum Spreading Factor	MP	1 to <maxPCPCH-SF>		
>> Minimum Spreading Factor	MP		Enumerated (4,8,16,32,64,128,256)	
>>NF_max	MP		Integer (1..64)	Maximum number of frames for PCPCH message part

>> Maximum available number of PCPCH	MP		Integer (1..64)	Maximum available number of PCPCH for the indicated Spreading Factor.
>> Available AP signatures	MP	1 to <maxPCPCH-APsig>		Signatures for AP preamble in UL.
>>> AP signature			Integer (0..15)	
>> Available AP sub-channel	OP	1 to <maxPCPCH-APsubCh>		AP sub-channels for the given AP signature in UL. Note: if not present, all subchannels are to be used without access delays.
>>> AP sub-channel	MP		Integer (0..11)	

Condition	Explanation
CDSigPresent	This IE may be included if IE "Available CD signatures" is present.
NCAA	This IE is included if IE "Channel Assignment Active" is not present
CAA	This IE is included if IE ""Channel Assignment Active" is present.

10.3.6.48 PICH Info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *mode*	MP			
>FDD				
~~>>Secondary scrambling code~~	~~MD~~		~~Secondary scrambling code 10.3.6.73~~	~~Default is the same scrambling code as for the Primary CPICH~~
>>Channelisation code	MP		Integer(0..255)	SF is fixed and equal to 256
>>Number of PI per frame	MP		Integer (18, 36 72 144)	
>>STTD indicator	MP		STTD Indicator 10.3.6.77	
>TDD				
>>Channelisation code	MD		Enumerated ((16/1)...(16/16))	Default value is the channelisation code used by the SCCPCH carrying the associated PCH.
>>Timeslot	MD		Timeslot number 10.3.6.81	Default value is the timeslot used by the SCCPCH carrying the associated PCH.
>>Burst type	MP		Enumerated (Typ1,Typ2)	
>>Midamble shift	MD		Midamble shift 10.3.6.40	Default value is the midamble shift used by the SCCPCH carrying the associated PCH.
>>Repetition period/length	MD		Enumerated((4/2),(8/2), (8/4),(16/2), (16/4), (32/2),(32/4), (64/2),(64/4))	Default value is "(64/2)".
>>Offset	MP		Integer (0...Repetition period -1)	SFN mod Repetitionperiod = Offset.
>>Paging indicator length	MD		Integer (4, 8, 16)	Indicates the length of one paging indicator in Bits. Default value is 4.
>>N_{GAP}	MD		Integer(2, 4, 8)	Number of frames between the last frame carrying PICH for this Paging Occasion and the first frame carrying paging messages for this Paging Occasion. Default value is 4.
>>N_{PCH}	MD		Integer(1 .. 8)	Number of paging groups. Default value is 2.

10.3.6.70 Secondary CCPCH info

Information Element/Group name	Need	Multi	Type and reference	Semantics description
CHOICE *mode*	MP			
>FDD				
>>Primary CPICH usage for channel estimation	MP		Primary CPICH usage for channel estimation 10.3.6.61	
>>Secondary CPICH info	OP		Secondary CPICH info 10.3.6.72	May only be sent for SCCPCH channels not carrying the PCH.
>>Secondary scrambling code	~~MD~~OP		Secondary scrambling code 10.3.6.73	May only be sent for SCCPCH channels not carrying the PCH.~~Default is the same scrambling code as for the Primary CPICH~~
>>STTD indicator	MD		STTD Indicator 10.3.6.77	Default value is "TRUE"
>>Spreading factor	MP		Integer(4, 8, 16, 32, 64, 128, 256)	
>>Code number	MP		Integer(0..Spreading factor - 1)	
>>Pilot symbol existence	MD		Boolean	TRUE means the existence. Default value is "TRUE"
>>TFCI existence	MD		Boolean	TRUE means the existence. Default value is "TRUE"
>>Fixed or Flexible Position	MD		Enumerated (Fixed, Flexible)	Default value is "Flexible"
>>Timing Offset	MD		Integer(0..38144 by step of 256)	Chip Delay of the Secondary CCPCH relative to the Primary CCPCH. Default value is 0.
>TDD				
>>Offset	MD		Integer (0...Repetition Period -1)	SFN modulo Repetition period = offset. Repetition period is the one indicated in the accompanying Common timeslot info IE
>>Common timeslot info	MP		Common timeslot info 10.3.6.9	
>>Individual timeslot info	MP		Individual timeslot info 10.3.6.36	
>>Code List	MP	1..<maxCodesCount>		
>>>Channelisation Code	MP		Enumerated((16/1)..(16/16))	

11.3.6 Physical channel information elements

```
AICH-Info ::=                       SEQUENCE {
    secondaryScramblingCode             SecondaryScramblingCode             OPTIONAL,
    channelisationCode256               ChannelisationCode256,
    sttd-Indicator                      BOOLEAN,
    aich-TransmissionTiming             AICH-TransmissionTiming
}
```

```
CPCH-SetInfo ::=                    SEQUENCE {
    cpch-SetID                          CPCH-SetID,
    transportFormatSet                  TransportFormatSet,
    tfcs                                TFCS,
    ap-PreambleScramblingCode           AP-PreambleScramblingCode,
    ap-AICH-ScramblingCode              SecondaryScramblingCode             OPTIONAL,
    ap-AICH-ChannelisationCode          AP-AICH-ChannelisationCode,
    cd-PreambleScramblingCode           CD-PreambleScramblingCode,
    cd-CA-ICH-ScramblingCode            SecondaryScramblingCode             OPTIONAL,
    cd-CA-ICH-ChannelisationCode        CD-CA-ICH-ChannelisationCode,
    cd-AccessSlotSubchannelList         CD-AccessSlotSubchannelList         OPTIONAL,
    cd-SignatureCodeList                CD-SignatureCodeList                OPTIONAL,
    deltaPp-m                           DeltaPp-m,
    ul-DPCCH-SlotFormat                 UL-DPCCH-SlotFormat,
    n-StartMessage                      N-StartMessage,
    n-EOT                               N-EOT,
    channelAssignmentActive             ChannelAssignmentActive,
    -- TABULAR: VCAM info has been nested inside ChannelAssignmentActive,
    -- which in turn is mandatory since it’s only a binary choice.
    cpch-StatusIndicationMode           CPCH-StatusIndicationMode,
    pcpch-ChannelInfoList               PCPCH-ChannelInfoList
}
```

```
PICH-Info ::=                       CHOICE {
    fdd                                 SEQUENCE {
        secondaryScramblingCode             SecondaryScramblingCode         OPTIONAL,
        channelisationCode256               ChannelisationCode256,
        pi-CountPerFrame                    PI-CountPerFrame,
        sttd-Indicator                      BOOLEAN
    },
    tdd                                 SEQUENCE {
        channelisationCode                  TDD-PICH-CCode                  OPTIONAL,
        timeslot                            TimeslotNumber                  OPTIONAL,
        burstType                           CHOICE {
            type-1                              MidambleShiftLong,
            type-2                              MidambleShiftShort
        }                                                                   OPTIONAL,
        repetitionPeriodLengthOffset        RepPerLengthOffset-PICH         OPTIONAL,
        pagingIndicatorLength               PagingIndicatorLength           DEFAULT pi4,
        n-GAP                               N-GAP                           DEFAULT f4,
        n-PCH                               N-PCH                           DEFAULT 2
    }
}
```

3GPP TSG-RAN WG2 Meeting #17 ***Tdoc R2-002406***
Sophia Anitpolis, France, 13-17 November, 2000

CR-Form-v3

CHANGE REQUEST

⌘ **25.331** **CR** **639** ⌘ rev **-** ⌘ Current version: **3.4.1** ⌘

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE **X** Radio Access Network **X** Core Network ☐

Title:	⌘	Expiration time of SIB type 7, 14
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	***Date:*** ⌘ November 15, 2000
Category:	⌘ **F**	***Release:*** ⌘ R99

Use one of the following categories:
F *(essential 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)

Reason for change:	⌘	The current mechanism for system information block without value tag does not work well for some of the SIBs without value tag. It is agreed in Joint R2-R4 ad hoc that current mechanism is inefficient. This CR proposes to add a parameter to SIB type 7 and SIB type 14, which allows the UE to defer the re-reading of SIB type 7 or SIB type 14. This would allow the operator to make the UE read FACH and BCH in order of few seconds, instead of potentially 50 % of time. A maximum requirement for the acquisition of SIB7 and 14 is proposed in order to ease UE implementation.
Summary of change:	⌘	A multiplier for the expiry timer of SIB type 7 and 14 is added. Text and tables are updated where approporiate.
Consequences if not approved:	⌘	The UE need to receive BCH and FACH simultaneously 50% of the time, which places too strict requirement on the UE.

Clauses affected:	⌘	8.1.1.4.2, 10.2.49.8.8, 10.2.49.8.15, 11.3.8
Other specs Affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

Table 8.1.1: Specification of system information block characteristics

System information block	Area scope	UE mode/state	Transport channel	Scheduling information	Modification of system information	Additional requirements
Master information block	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	SIB_POS = 0 SIB_REP = 8 (FDD) SIB_REP = 8, 16, 32 (TDD) SIB_OFF=2	Value tag	
		CELL_FACH	FACH	Scheduling not applicable	Value tag	
System information block type 1	PLMN	Idle mode	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 2	PLMN	CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 3	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 4	Cell	CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	If System information block type 4 is not broadcast in a cell, the connected mode UE shall read System information block type 3
System information block type 5	Cell	Idle mode, (CELL_FACH, CELL_PCH, URA_PCH)	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 6	Cell	CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH (TDD only)	BCH	Specified by the IE "Scheduling information"	Value tag	If system information block type 6 is not broadcast in a cell, the connected mode UE shall read System information block type 5. If some of the optional IEs are not included in System information block type 6, the UE shall read the corresponding IEs in System information block type 5
System information block type 7	Cell	Idle mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP <u>times ExpirationTimeFactor</u>	
System information block type 8	Cell	CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 9	Cell	Connected mode	BCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	

System information block type 10	Cell	CELL_DCH	FACH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	This system information block shall only be acquired by UEs with support for simultaneous reception of one SCCPCH and one DPCH. If the system information block is not broadcast in a cell, the DRAC procedures do not apply in this cell. This system information block is used in FDD mode only.
System information block type 11	Cell	Idle mode (CELL_FACH, CELL_PCH, URA_PCH)	BCH	Specified by the IE "Scheduling information"	Value tag	This system information block is used in FDD mode only.
System information block type 12	Cell	CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	If some of the optional IEs are not included in System information block type 12, the UE shall read the corresponding IEs in System information block type 11. This system information block is used in FDD mode only.
System information block type 13	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.3	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 13.4	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 14	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH, CELL_DCH	BCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP <u>times ExpirationTimeFactor</u>	This system information block is used in TDD mode only.
System information block type 15	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.1	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	

System information block type 15.2	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 15.3	Cell	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	
System information block type 16	PLMN	Idle Mode, CELL_FACH, CELL_PCH, URA_PCH	BCH	Specified by the IE "Scheduling information"	Value tag	For this system information block there may be multiple occurrences
System information block type 17	Cell	CELL_FACH, CELL_PCH, URA_PCH , CELL_DCH	BCH	Specified by the IE "Scheduling information"	Expiration timer = SIB_REP	This system information block is used in TDD mode only.

8.1.1.4.2 Modification of system information without value tag

When the UE has acquired a system information block not linked to a value tag, a timer shall be started using a value equal to the repetition period (SIB_REP) for that system information block. If the IE "“Expiration Time Factor"” is included in the system information block, the UE shall use MIN([320ms], SIB_REP x value of IE “Expiration TimeFactor”) as the expiration timer. When the timer expires, the information carried in the system information block is considered to be invalid and the UE shall re-acquire the system information block before the system information elements can be used. On reception of a modified system information block, the UE shall perform the actions specified in subclause 8.1.1.5.

10.2.49.8.8 System Information Block type 7

The system information block type 7 contains the fast changing parameters UL interference and Dynamic persistence level

Information Element/Group name	Need	Multi	Type and reference	Semantics description
References to other system information blocks	OP		References to other system information blocks 10.3.8.11	Only system information blocks with area scope "Cell" and update mechanism "expiration timer" may be referenced.
CHOICE mode	MP			
>FDD				
>>UL interference	MP		UL interference 10.3.6.85	
>TDD				(no data)
PhyCH information elements				
PRACHs listed in system information block type 5	MP	1 to<maxPRACH>		The order of the PRACHs is the same as in system information block type 5.
>Dynamic persistence level	MP		Dynamic persistence level 10.3.6.34	
PRACHs listed in system information block type 6	OP	1 to <maxPRACH>		The order of the PRACHs is the same as in system information block type 6.
>Dynamic persistence level	MP		Dynamic persistence level 10.3.6.34	
Expiration Time Factor	MD		Expiration Time Factor 10.3.3.7.x	Default is 1.

10.2.49.8.15 System Information Block type 14

NOTE: Only for TDD.

The system information block type 14 contains parameters for common and dedicated physical channel uplink outer loop power control information to be used in both idle and connected mode. The block may also contain scheduling information for other system information blocks.

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Other information elements				
References to other system information blocks	OP		References to other system information blocks 10.3.8.11	Only system information blocks with area scope "Cell" and update mechanism "value tag" may be referenced.
PhyCH information elements				
Individual Timeslot interference list	MP	1 to <maxTS>		
>Individual Timeslot interference	MP		Individual Timeslot interference 10.3.6.37	
Expiration Time Factor	MD		Expiration Time Factor 10.3.3.7	Default is 1.

10.3.3.7.x Expiration Time Factor

Information Element/Group name	Need	Multi	Type and reference	Semantics description
Expiration Time Factor	MP		Enumerated(2times, 4times, 8times, 16times, 32times, 64times, 128times, 256times)	

11.3.8 Other information elements

```
ExpirationTimerFactor               Enumerated {2, 4, 8, 16,32,64,128, 256 }

SysInfoType7 ::=                    SEQUENCE {
    -- Other IEs
        sib-ReferenceList               SIB-ReferenceList                   OPTIONAL,
    -- Physical channel IEs
        modeSpecificInfo                CHOICE {
            fdd                             SEQUENCE {
                ul-Interference                 UL-Interference
            },
            tdd                             NULL
        },
        prach-Information-SIB5-List     DynamicPersistenceLevelList,
        prach-Information-SIB6-List     DynamicPersistenceLevelList         OPTIONAL,
        expirationTimeFactor            ExpirationTimerFactor               OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}


SysInfoType14 ::=                   SEQUENCE {
    -- Other IEs
        sib-ReferenceList               SIB-ReferenceList                   OPTIONAL,
    -- Physical channel IEs
        individualTS-InterferenceList   IndividualTS-InterferenceList,
        expirationTimeFactor            ExpirationTimerFactor               OPTIONAL,
    -- Extension mechanism for non- release99 information
        nonCriticalExtensions           SEQUENCE {}
}
```

3GPP TSG RAN WG2#17
Sophia Antipolis, France, 13th – 17th November, 2000

Document R2-002442
e.g. for 3GPP use the format TP-99xxx
or for SMG, use the format P-99-xxx

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.331	CR	640	Current Version:	3.4.1

GSM (AA.BB) or 3G (AA.BBB) specification number ↑ *↑ CR number as allocated by MCC support team*

For submission to:	TSG-RAN #10	for approval	X	strategic		(for SMG use only)
list expected approval meeting # here ↑		for information		non-strategic		

Form: CR cover sheet, version 2 for 3GPP and SMG *The latest version of this form is available from:* ftp://ftp.3gpp.org/Information/CR-Form-v2.doc

Proposed change affects: *(at least one should be marked with an X)*	(U)SIM		ME	X	UTRAN / Radio	X	Core Network	

Source: TSG-RAN WG2 **Date:** 2000-11-16

Subject: Correction to integrity protection

Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			Release 99	X
				Release 00	

Reason for change: Alignment of replay protection mechanism with 33.102.

Clauses affected: 8.5.12.1

Other specs affected:

Other 3G core specifications		→ List of CRs:
Other GSM core specifications		→ List of CRs:
MS test specifications		→ List of CRs:
BSS test specifications		→ List of CRs:
O&M specifications		→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

8.5.12 Integrity protection

Integrity protection shall be performed on all RRC messages, with the following exceptions:

HANDOVER TO UTRAN COMPLETE

PAGING TYPE 1

PUSCH CAPACITY REQUEST

PHYSICAL SHARED CHANNEL ALLOCATION

RRC CONNECTION REQUEST

RRC CONNECTION SETUP

RRC CONNECTION SETUP COMPLETE

RRC CONNECTION REJECT

SYSTEM INFORMATION (BROADCAST INFORMATION)

SYSTEM INFORMATION CHANGE INDICATION

TRANSPORT FORMAT COMBINATION CONTROL

NOTE: MEASUREMENT REPORT needs to be studied when used on UM as in some cases there could be synchronization problems with the RRC SN.

For CCCH and each signalling radio bearer, the UE shall use two RRC hyper frame numbers,

- "Uplink RRC HFN";
- "Downlink RRC HFN".

and two message sequence numbers,

- "Uplink RRC Message sequence number";
- "Downlink RRC Message sequence number".

The above information is stored in the variable INTEGRITY_PROTECTION_INFO per CCCH and signalling radio bearer (RB 0-4).

The RRC message sequence number (RRC SN) is incremented for every integrity protected RRC message. If the same RRC message is sent repeatedly (e.g. RRC CONNECTION RELEASE, RRC CONNECTION RELEASE COMPLETE) the corresponding RRC SN is not incremented.

8.5.12.1 Integrity protection in downlink

If the UE receives an RRC message on signalling radio bearer with RB identity n, the "Status" in the variable INTEGRITY_ PROTECTION_INFO has the value "Started" and the IE "Integrity check info" is present the UE shall:

- check the value of the IE "RRC message sequence number" included in the IE "Integrity check info". If the RRC message sequence number is lower than ~~or equal to~~ the "Downlink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO, the UE shall increment "Downlink RRC HFN" for RB#n in the variable INTEGRITY_PROTECTION_INFO with one. If the RRC message sequence number is equal to the the "Downlink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO, the message shall be discarded.
- calculate an expected message authentication code in accordance with subclause 8.5.12.3.
- compare the expected message authentication code with the value of the received IE "message authentication code" contained in the IE "Integrity check info".

- If the expected message authentication code and the received message authentication code are the same, the integrity check is successful.

- ~~-~~If the calculated expected message authentication code and the received message authentication code differ, the UE shall do the following:

  - ~~the message shall be discarded~~If the IE "RRC message sequence number" included in the IE "Integrity check info" is lower than the "Downlink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO (in this case the "Downlink RRC HFN" for RB#n in the variable INTEGRITY_PROTECTION_INFO was incremented by one, as stated above), the "Downlink RRC HFN" for RB#n in the variable INTEGRITY_PROTECTION_INFO shall be decremented by one.

  - discard the message.

If the UE receives an RRC message on signalling radio bearer with identity n, the "Status" in the variable INTEGRITY_ PROTECTION_INFO has the value "Started" and the IE 'Integrity check info' is not present the UE shall discard the message.

8.5.12.2 Integrity protection in uplink

Upon transmitting an RRC message using the signalling radio bearer with radio bearer identity n, and the "Status" in the variable INTEGRITY_ PROTECTION_INFO has the value "Started" the UE shall:

- increment "Uplink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO with 1. When "Uplink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO becomes 0, the UE shall increment "Uplink RRC HFN" for RB#n in the variable INTEGRITY_PROTECTION_INFO with 1

- calculate the message authentication code in accordance with subclause 8.5.12.3

- replace the "Message authentication code" in the IE "Integrity check info" in the message with the calculated message authentication code.

- replace the "RRC Message sequence number" in the IE "Integrity check info" in the message with contents set to the new value of the "Uplink RRC Message sequence number" for RB#n in the variable INTEGRITY_PROTECTION_INFO

8.5.12.3 Calculation of message authentication code

The UE shall calculate the message authentication code in accordance with 3GPP TS 33.102. The input parameter MESSAGE (3GPP TS 33.102) for the integrity algorithm shall be constructed by:

- setting the "Message authentication code" in the IE "Integrity check info" in the message to the signalling radio bearer identity

- setting the "RRC Message sequence number" in the IE "Integrity check info" in the message to zero

- encoding the message

- appending RRC padding (if any) as a bitstring to the encoded bitstring as the least significant bits