

**TSG-RAN Meeting #6
Nice, France, 13 – 15 December 1999**

TSGRP#6(99)655

Title: Agreed CRs of category "C" (Modification) and "F" (Correction) to TS 25.331 v"Intermediate", 2nd set

Source: TSG-RAN WG2

Agenda item: 5.2.3

| Doc-1st- | Status- | Spec | CR | Rev | Subject | Cat | Versio | Versio |
|----------|---------|--------|-----|-----|---------------------------------|-----|--------|--------|
| R2-99j91 | agreed | 25.331 | 085 | 1 | RRC Connection Establishment | C | interm | 3.1.0 |
| R2-99j03 | agreed | 25.331 | 097 | | Selection of SCCPCH | C | interm | 3.1.0 |
| R2-99j89 | agreed | 25.331 | 098 | 1 | RRC Initialisation Information | C | interm | 3.1.0 |
| R2-99k32 | agreed | 25.331 | 102 | 1 | RRC Connection Re-establishment | C | interm | 3.1.0 |
| R2-99k40 | agreed | 25.331 | 109 | 1 | TX Diversity Mode for Dedicated | C | interm | 3.1.0 |
| R2-99L01 | agreed | 25.331 | 116 | 1 | TBS Identification in TFS | C | interm | 3.1.0 |

3GPP TSG-RAN Meeting #6
Nice, France, 13-15 December 1999

Document (R2-99j91)

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

| | | | |
|--|--|---|-----------------------------------|
| CHANGE REQUEST | | <small>Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.</small> | |
| 25.331 CR 085r1 | | Current Version: Intermediate | |
| <small>GSM (AA.BB) or 3G (AA.BBB) specification number ↑</small> | | <small>↑ CR number as allocated by MCC support team</small> | |
| For submission to: TSG-RAN#6 | for approval <input checked="" type="checkbox"/> | strategic <input type="checkbox"/> | <small>(for SMG use only)</small> |
| <small>list expected approval meeting # here ↑</small> | for information <input type="checkbox"/> | non-strategic <input type="checkbox"/> | |
| <small>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</small> | | | |

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

Source: TSG-RAN WG2 **Date:** 29 Nov 1999

Subject: RRC Connection Establishment parameters

Work item:

| | | | |
|------------------|--|-----------------|--|
| Category: | F Correction <input type="checkbox"/> A Corresponds to a correction in an earlier release <input type="checkbox"/> B Addition of feature <input type="checkbox"/> C Functional modification of feature <input checked="" type="checkbox"/> D Editorial modification <input type="checkbox"/> | Release: | Phase 2 <input type="checkbox"/> Release 96 <input type="checkbox"/> Release 97 <input type="checkbox"/> Release 98 <input type="checkbox"/> Release 99 <input checked="" type="checkbox"/> Release 00 <input type="checkbox"/> |
|------------------|--|-----------------|--|

(only one category shall be marked with an X)

Reason for change:

1. The IE "Initial UE capability" sent in the RRC CONNECTION REQUEST message is currently marked as FFS. It is proposed to remove the FFS and a set of parameters is proposed to be included in the "Initial UE capability". It is also proposed to change this IE from "optional" to "mandatory".

Clauses affected: 8.1.3.2, 10.1.4.6, 10.1.6.4.2, 10.2.3.12

| | | |
|------------------------------|---|---|
| Other specs affected: | Other 3G core specifications <input type="checkbox"/> Other GSM core specifications <input type="checkbox"/> MS test specifications <input type="checkbox"/> BSS test specifications <input type="checkbox"/> O&M specifications <input type="checkbox"/> | → List of CRs: <input type="text"/> → List of CRs: <input type="text"/> → List of CRs: <input type="text"/> → List of CRs: <input type="text"/> → List of CRs: <input type="text"/> |
|------------------------------|---|---|

Other comments:

8.1.3.2 Initiation

The non-access stratum in the UE may request the establishment of at most one RRC connection per UE.

The UE shall transmit an RRC CONNECTION REQUEST message on the uplink CCCH, reset counter V300, and start timer T300.

The UE shall set the IE “Establishment cause” according to indications from the non-access stratum or according to the paging cause received from the PAGING TYPE 1 message.

The UE shall set the IE “Initial UE identity” according to subclause 8.5.1

The UE shall indicate its capability in the IE “Initial UE capability”. *[Note: Currently this IE is optional. In that case the condition for including the IE needs to be specified.]*

10.1.4.6 RRC CONNECTION REQUEST

RRC Connection Request is the first message transmitted by the UE when setting up an RRC Connection to the network.

RLC-SAP: TM

Logical channel: CCCH

Direction: UE → UTRAN

| Information Element | Presence | Range | IE type and reference | Semantics description |
|---|--------------|----------------------|-----------------------|---|
| Message Type | M | | | |
| UE information elements | | | | |
| Initial UE identity | M | | | |
| Establishment cause | M | | | |
| Initial UE capability | M | | | Necessity is FFS |
| Measurement information elements | | | | |
| Measurement information | | 1 to <MeasRep Count> | | Send Measurement information for each measurement report in the message |
| Measurement identity number | M | | | Refers to system information. Note 1 |
| Measured results | M | | | |

Note 1: The necessity and usage of Measurement identity number in this message is FFS.

| Range Bound | Explanation |
|--------------------|--|
| <i>MeasRepCoun</i> | Number of measurement reports in the message |

10.2.3.12 Initial UE capability

This

is the UE capability information given in the RRC connection request message. ~~The exact type of information is FFS.~~

| Information Element/Group name | Presence | Range | IE type and reference | Semantics description |
|---|-----------------------------|-------|--|--|
| Initial UE Capability Extension IndicationSupport for Transport CH | OM | | Boolean FALSE | Indicates which transport channels are supported. A value of "False" indicates that the Initial UE capability is interpreted according to "Release 99 (first release)". If the value is set to "True", the contents defined here do not apply and a new definition is given in a future release is added to this information element. |
| Capability extension info | C- Extension | | | Note 1 |
| Maximum number of AM entities | M | | Enumerated (2, 3, 4 or more, 8, 16, 32) | If the maximum number of AM entities is three, only two of these entities shall be used for signalling. If the maximum number is four, three entities may be used. This IE needs to be defined as extensible for future releases. Simultaneous AM RLC entities supported by the UE. If N=1 and reason for setup is 'packet' call, the RNC should not allocate both available AM RLCs to signalling radio bearers. |
| Maximum number of simultaneous transport channels in downlinkDownlink DCH capability | M | | Enumerated (4, 8, 16, 32)Boolean | This IE refers to the UE capability Maximum number of Ssimultaneous transport channels supported in downlink. This parameter indicates whether UE supports only FACH (falseN=2) or also DCHs (true). |
| Maximum number of simultaneous transport channels in uplinkUplink DCH capability | M | | Enumerated (2, 4, 8, 16, 32)Boolean | This IE refers to the UE capability Maximum number of Ssimultaneous transport channels supported in uplink. This parameter indicates whether UE supports only RACH (falsevalue=2) or also DCHs (true). |

Note 1: This information element may be defined in later releases.

| <u>Condition</u> | <u>Explanation</u> |
|--------------------|--|
| <u>C-Extension</u> | <u>This IE is included only when Signalling link type extension indicator is TRUE.</u> |

10.1.6.4.2 Master Information Block

Area scope: Cell

UE mode: Idle mode and connected mode

| Information Element | Presence | Multi | IE type and reference | Semantics description |
|--|--------------|-----------------------------|-----------------------|--|
| Other information elements | | | | |
| Value tag | M | | | |
| <u>Network capability extension indication</u> | | | | <u>A value of "False" indicates that the Initial UE capability is interpreted according to "Release 99 (first release)". If the value is set to "True", a new definition given in a future release is added to this information element.</u> |
| <u>Capability Extension Info</u> | <u>C-Ind</u> | | | <u>Note 1</u> |
| References to other system information blocks | | 1 .. <maxSysInfoBlockcount> | | |
| >Scheduling information | M | | | |
| CN information elements | | | | |
| CN Type | M | | | |
| PLMN Identity | M | | | |

Note 1: This information element may be defined in later releases.

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 097

Current Version: **Intermediate**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG-RAN#6**
list expected approval meeting # here ↑

For approval for information

strategic (for SMG use only)
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 Core Network
(at least one should be marked with an X)

Source: **TSG-RAN WG2** **Date:** **1999-11-29**

Subject: **Selection of SCCPCH**

Work item:

Category: F Correction **Release:** Phase 2
A Corresponds to a correction in an earlier release Release 96
(only one category shall be marked with an X) B Addition of feature Release 97
C Functional modification of feature Release 98
D Editorial modification Release 99
Release 00

Reason for change: (1) Add “SELECTION INDICATOR” to each “SCCPCH info”. The UE select SCCPCH from the broadcasted SCCPCHs on BCH which are set to “SELECTION INDICATOR”=“ON” based on parameter which UE and NW have.
(2) When the UE is in idle mode, “Initial UE Identity” is used for the basis for selection.
(3) When the UE is in connected mode, “old U-RNTI” is used for the basis for selection.

Clauses affected: **8.5.7.6.3, 10.2.6.5**

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.

8.5.7.6.3 Secondary CCPCH info

If the IE "Secondary CCPCH info" is included and the IE "PICH info" is not included, the UE shall start to receive that Secondary CCPCH in the downlink.

If the IE "Secondary CCPCH info" is indicated by a dedicated message, the UE shall start to receive that Secondary CCPCH in the downlink. If the IE "Secondary CCPCH info" is not indicated by a dedicated message, the UE selects a SCCPCH from the broadcasted SCCPCHs on BCH which are set to " Selection indicator"="On" based on "Initial UE identity" in idle mode or "old U-RNTI" in connected mode and the UE shall start to receive that Secondary CCPCH in the downlink.

The UE selects one SCCPCH based on the following algorithm.

- Selected SCCPCH = (Initial UE Identity) mod (listed SCCPCHs with "Selection Indicator"="on") (idle mode)
- Selected SCCPCH = (old U-RNTI) mod (listed SCCPCHs with "Selection Indicator"="on") (connected mode)

10.2.6.5 Secondary CCPCH info

| Information Element/Group name | Presence | Range | IE type and reference | Semantics description |
|--------------------------------|---------------|-------|-------------------------------------|---|
| <u>Selection Indicator</u> | <u>C-BCCH</u> | | <u>Enumerated (On, Off)</u> | |
| CHOICE mode | | | | |
| >FDD | | | | |
| >>Secondary scrambling code | O | | Integer (0..14) | |
| >>STTD indicator | O | | | |
| >>Spreading factor | M | | Enumerated(4, 16, 32, 64, 128, 256) | |
| >>Code number | M | | Integer(0..maxCodeNum) | |
| >>Pilot symbol existence | M | | Boolean | |
| >>TFCI existence | M | | Boolean | |
| >>Fixed or Flexible Position | M | | Enumerated (Fixed, Flexible) | |
| >>Timing Offset | O | | | Time difference between PCCPCH |
| >TDD | | | | |
| >>Channelization code | M | | | |
| >>Time slot | M | | | Timeslot of the Secondary CCPCH |
| >>Midamble type | O | | | Long or short midamble for each time slot |
| >>Midamble shift | M | | | Midamble shift of Secondary CCPCH for each timeslot |
| >>Superframe offset | M | | | Offset of the first CCPCH transmission in a 72 superframe |
| >>Repetition period | M | | | Repetition period of the CCPCH in the 72 superframe |
| >>Repetition length | M | | | Length of the allocation for each repetition |

| Condition | Explanation |
|-------------|---|
| <u>BCCH</u> | <u>This IE is only sent when BCCH is used</u> |

| Range Bound | Explanation |
|-------------------|---|
| <i>MaxCodeNum</i> | Maximum number of codes for one spreading factor (SF) is equal to SF-1. |

CHANGE REQUEST

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25.331 CR 098r1

Current Version: **Intermediate**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG-RAN#6**
list expected approval meeting # here ↑

for approval
for information

strategic
non-strategic (for SMG use only)

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 Core Network
(at least one should be marked with an X)

Source: TSG-RAN WG2 **Date:** Nov. 29. 1999

Subject: RRC Initialisation Information

Work item:

Category: F Correction **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
Release 00

(only one category shall be marked with an X)

Reason for change: Currently, only RRC IEs are listed in the RRC Initialisation Information. It is proposed to add non-RRC IEs which are necessary to maintain the RRC connection.

Clauses affected: 14.7.1

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:



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14.7.1 RRC Initialisation Information

| Information Element | Presence | RangeM ulti | IE type and reference | Semantics description |
|--|----------|----------------|---|--------------------------|
| | | | | |
| Non RRC IEs | | | | |
| <u>State of RRC</u> | <u>M</u> | | <u>Enumerated (CELL_DCH, CELL_FACH, CELL_PCH, URA_PCH)</u> | |
| <u>State of RRC procedure</u> | <u>M</u> | | <u>Enumerated (await no RRC message, await RRC Connection Re-establishment Complete, await RB Setup Complete, await RB Reconfiguration Complete, await RB Release Complete, await Transport CH Reconfiguration Complete, await Physical CH Reconfiguration Complete, await Active Set Update Complete, await Handover Complete, others)</u> | |
| <u>Variable RLC parameters</u> | <u>M</u> | | | |
| <u>Security related Variable parameters</u> | <u>M</u> | | | |
| <u>Implementation specific parameters</u> | <u>O</u> | | <u>Bitstring (1..512)</u> | |
| | | | | |
| RRC IEs | | | | |
| UE Information elements | | | | |
| <u>U-RNTI</u> | | | | |
| <u>C-RNTI</u> | | | | |
| <u>Power Control Capability</u> | | | | |
| <u>Code Resource Capability</u> | | | | |
| <u>UE Mode Capability</u> | | | | |
| <u>Transport CH support capability</u> | | | | |
| <u>Ciphering Capability</u> | | | | |
| <u>Macro Diversity Capability</u> | | | | |
| <u>FAUSCH usage support</u> | | | | |
| <u>UE radio Capability</u> | | | | |
| <u>Ciphering mode info</u> | | | | |
| Other Information elements | | | | |
| <u>Inter System message (inter system classmark)</u> | | | | |

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 102r1

Current Version: Intermediate

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: TSG-RAN#6

list expected approval meeting # here ↑

for approval
for information

Strategic
non-strategic (for SMG use only)

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 Core Network
(at least one should be marked with an X)

Source: TSG-RAN WG2 **Date:** Nov. 29. 1999

Subject: RRC connection Re-establishment

Work item:

Category: F Correction
A Corresponds to a correction in an earlier release
B Addition of feature
C Functional modification of feature
D Editorial modification
(only one category shall be marked with an X)

Release: Phase 2
Release 96
Release 97
Release 98
Release 99
Release 00

Reason for change: Considering abnormal cases of the RB control procedure, it is proposed to have capability in RRC Connection Re-establishment procedure to setup, reconfigure and release radio bearers.

Clauses affected: 10.1.4.1

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.

10.1.4.1 RRC CONNECTION RE-ESTABLISHMENT

<Functional description of this message to be included here>

RLC-SAP: UM

Logical channel: CCCH, DCCH

Direction: UTRAN → UE

| Information Element | Presence | Range | IE type and reference | Semantics description |
|---|------------------|-------------------------|-----------------------|---|
| Message Type | M | | | |
| UE information elements | | | | |
| New U-RNTI | O | | | |
| New C-RNTI | O | | | |
| Activation time | O | | | |
| CN information elements | | | | |
| PLMN identity | O | | | (Note1) |
| CN related information | | 0 to <MaxNoC Ndomains> | | CN related information to be provided for each CN domain |
| >CN domain identity | O | | | (Note1) |
| >NAS system info | O | | | (Note1) |
| <u>NAS binding info</u> | <u>C-RBsetup</u> | | | |
| <u>CN domain identity</u> | <u>C-RBsetup</u> | | | |
| RB information elements | | | | |
| <u>-RB information</u> | | 0 to <MaxRBcount> | | RB information is sent for each RB affected by this message |
| <u>—RB identity</u> | M | | | |
| <u>—RLC info</u> | O | | | FFS |
| <u>—RB multiplexing info</u> | M | | | |
| <u>RB information to setup</u> | | 0 to <MaxSetup RBcount> | | |
| <u>>RB identity</u> | M | | | |
| <u>> CHOICE RLC info type</u> | M | | | |
| <u>>>RLC info</u> | | | | |
| <u>>RB mapping info</u> | M | | | |
| <u>RB information to release</u> | | 0 to <MaxRetRBcount> | | |
| <u>>RB identity</u> | M | | | |
| <u>RB information to reconfigure</u> | | 0 to <MaxReconfRBcount> | | |
| <u>>RB identity</u> | M | | | |
| <u>> CHOICE RLC info type</u> | O | | | |
| <u>>>RLC info</u> | | | | FFS |
| <u>>> Signalling radio bearer type</u> | | | | |
| <u>>RB mapping info</u> | O | | | |
| <u>>RB suspend/resume</u> | O | | | Not applicable to the signalling bearer. |
| Transport Channel Information Elements | | | | |

| Condition | Explanation |
|----------------|---|
| <u>RBsetup</u> | This information element is only sent when RB information to setup exists |

| Range Bound | Explanation |
|------------------------|------------------------------|
| <i>MaxNoCN domains</i> | Maximum number of CN domains |

| | |
|------------------------|---|
| <u>MaxRBcount</u> | <u>Maximum number of RBs to be reconfigured</u> |
| <u>MaxSetupRBcount</u> | <u>Maximum number of RBs to be setup</u> |
| <u>MaxRelRBcount</u> | <u>Maximum number of RBs to be released</u> |
| <u>MaxReconRBcount</u> | <u>Maximum number of RBs to be reconfigured</u> |
| <u>MaxDelTrCHcount</u> | Maximum number of Transport CHannels to be removed |
| <u>MaxReconAddTrCH</u> | Maximum number of transport channels to add and reconfigure |
| <u>MaxRLcount</u> | Maximum number of radio links |

| | |
|-------------------------------------|--|
| <u>CHOICE RLC info type</u> | <u>Condition under which the given RLC info type is chosen</u> |
| <u>RLC info</u> | |
| <u>Signalling radio bearer type</u> | |

CHANGE REQUEST

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25.331

CR 109r1

Current Version: Intermediate

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: TSG-RAN#6
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for approval
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strategic
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Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <http://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects:

(at least one should be marked with an X)

(U)SIM ME UTRAN / Radio Core Network

Source:

TSG-RAN WG2

Date:

1999-12-03

Subject:

TX Diversity Mode for Dedicated Channel

Work item:

Category:

(only one category shall be marked with an X)

F Correction
A Corresponds to a correction in an earlier release
B Addition of feature
C Functional modification of feature
D Editorial modification

Release:

Phase 2
Release 96
Release 97
Release 98
Release 99
Release 00

Reason for change:

Enabling the signalling of closed loop modes in System Information. Combining STTD indicator and closed loop mode into one information element.

Clauses affected:

10.2.6.10,10.2.6.11

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 CR.

10.2.6.10 Downlink DPCH info

| Information Element/Group name | Presence | Range | IE type and reference | Semantics description |
|---|----------|----------------------|--|---|
| CHOICE mode | | | | |
| FDD | | | | |
| Secondary scrambling code | O | | Integer (0..14) | |
| DL channelization code | | 1 to <maxChan count> | | Channelization codes to be used in the downlink for DPCH |
| Spreading factor | M | | Enumerated(4, 16, 32, 64, 128, 256, 512) | |
| Code number | M | | Integer(0..maxCodeNum) | |
| Fixed or Flexible Position | M | | Enumerated (Fixed, Flexible) | |
| TFCI existence | M | | Boolean | |
| Number of bits for Pilot bits | C-SF | | Enumerated (2,4,8 bits) | |
| STTD Indicator TX Diversity Mode | <u>M</u> | | | |
| TDD | | | | |
| DPCH Activation Time | O | | | Frame number start of allocation period (the Superframe offset can be derived) |
| Duration | O | | | Total number of frames |
| Repetition period | O | | | Repetition period of the DPCH in the 72 Superframe |
| Repetition length | O | | | Length of the allocation for each repetition |
| TFCI presence | O | | | Coding for a TFCI field in a DPCH |
| DPCH channelisation code | M | | | SF of the channelisation code of the data part for each DPCH |
| Timeslot | M | | | Timeslot of DPCH for each DPCH |
| Midamble type | O | | | Short or long, for each time slot, for each DPCH |
| Midamble shift | M | | | Midamble shift for each timeslot for each DPCH |
| DPCH activation time | O | | | Frame number start of allocation (the Superframe OFFset can be derived) for each timeslot for each DPCH |

| Condition | Explanation |
|-----------|---|
| STTD | This IE is only sent if STTD is applied |
| SF | This IE is only sent if SF=128 or 256 is applied. If SF=256, value is 2,4 or 8 If SF=128, value is 4 or 8 |

| Range Bound | Explanation |
|--------------|---|
| MaxChancount | Maximum number of channelization codes used for DL DPCH |
| MaxCodeNum | Maximum number of codes for one spreading factor |

(SF) is equal to SF-1.

10.2.6.11 ~~FB Mode Transmit Diversity signalling indicator~~ TX Diversity Mode

| Information Element/Group name | Presence | Range | IE type and reference | Semantics description |
|--------------------------------|----------|-------|--|--|
| Mode | M | | Enumerated (<u>none</u> , <u>STTD</u> , <u>closed loop mode1</u> , <u>closed loop mode2</u>) | Associated with DL DPCH info (but not for each RL) |

Note: These parameters shall be set optionally associated with DL DPCH info but not for each RL.

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 116r1

Current Version: **Intermediate**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG-RAN#6**

list expected approval meeting # here ↑

for approval

For information

Strategic

non-strategic

(for SMG use only)

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

UTRAN / Radio

Core Network

Source: TSG-RAN WG2

Date: 02/12/99

Subject: TBS Identification in TFS

Work item:

Category:

(only one category Shall be marked With an X)

- F Correction
- A Corresponds to a correction in an earlier release
- B Addition of feature
- C Functional modification of feature
- D Editorial modification

Release:

- Phase 2
- Release 96
- Release 97
- Release 98
- Release 99
- Release 00

Reason for change:

1. The transport block sizes currently available in RRC signalling does not support the payload unit concept at RLC. There is also a need to change the transport block sizes because of the new conclusion on MAC header size. The details are discussed in R2#8(99)e56.

Further, the modifications regarding Turbo coding rate and CRC bit length are proposed to reflect the result from the latest RAN WG1 meeting. Details are discussed in R2#8(99)f16.

Important changes

- Separation of TFS for common and dedicated channel
- New PDU sizes for the different RLC modes on a dedicated transport channel
- Limitation on the semi-static parameter TTI for the common transport channel case

2. Transport Block Size Signalling of RLC Transparent Mode for DCH

It is difficult to predict at this point which transport block sizes will be used in transparent mode. This CR contains modifications to the Transport Format Set IE, implementing 1 bit granularity for transport blocks in transparent mode for DCH.

3. Non-octet aligned transport block sizes in TDD mode

In RLC UM and AM modes RLC PDU's are octet aligned. Since in TDD mode MAC headers are not octet aligned the resulting transport block sizes will NOT be octet aligned.

TB size = MAC header + RLC PDU Size

Therefore in TDD mode either a bit specific Transport Block Size is needed or a octet aligned RLC PDU size must be specified in the TFS. Since the bit specific parameter creates considerable additional signaling load the RLC PDU method is preferred.

Also since multiple non-octet aligned header sizes exist in TDD mode it is necessary to

define the MAC header type so that the correct TB size can be calculated from the RLC PDU size.

Note: CR's 004 and 086 to 25.331 are withdrawn

Clauses affected: 8.5.7.5.1, 10.1.6.4.7, 10.1.6.4.8 and 10.2.5.4

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](#)

1.1.1.1.1 8.5.7.5.1 Transport Format Set

If the IEs “transport channel identity” and the IE “Transport format set” is included, the UE shall

- store the transport format set for that transport channel.

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 as

TB size = RLC PDU size + MAC header size,

where,

MAC header size is according to 25.321 if MAC multiplexing is used. Otherwise it is 0 bits.

*** Next modified section ***

10.1.6.4.7 System Information Block type 5

The system information block type 5 contains parameters for the configuration of the common physical channels in the cell. The block may also contain scheduling information for other system information blocks.

Area scope: cell

UE mode: idle mode (and connected mode)

| Information Element | Presence | Range | IE type and reference | Semantics description |
|---|----------|-----------------------------|-----------------------|----------------------------------|
| Other information elements | | | | |
| Value tag | M | | | |
| References to other system information blocks | | 0 .. <maxSysInfoBlockcount> | | |
| | | | | |
| Scheduling information | M | | | |
| PhyCH information elements | | | | |
| Frequency info | O | | | |
| Maximum allowed UL TX power | O | | | |
| <i>CHOICE mode</i> | | | | |
| TDD | | | | |
| PSCCH Time slot | | | | |
| FDD | | | | |
| Secondary CPICH info | O | | | Note 2 |
| Primary CCPCH info | O | | | Note 1 |
| PRACH information | | 1 .. <maxPRACHcount> | | |
| PRACH info | M | | | |
| TFS | M | | | |
| <i>CHOICE mode</i> | | | | |
| FDD | | | | |
| AICH info | M | | | |
| TDD | | | | |
| ASC info | O | | | |
| Secondary CCPCH information | | 1 .. <maxSCCPCHcount> | | |
| Secondary CCPCH info | M | | | |
| TFCS | M | | | For FACHs and PCH |
| FACH/PCH information | | 1 .. <maxFACHcount> | | |
| TFS | | | | For each FACHs and PCH Note 3 |
| PICH info | C-Pich | | | |
| Maximum allowed UL TX power | | | | |
| UE Information elements | | | | |
| UTRAN_DRX_cycle length | | | | |

Note 1: DL scrambling code of the Primary CCPCH is the same as the one for Primary CPICH.

Note 2: This parameter is needed in case of using adaptive array antenna.

Note 3: TFS for PCH shall be listed at the top of FACH/PCH information if PCH exists.(FACHcount=1)

| Condition | Explanation |
|-----------------------|--|
| <i>Pich</i> | PICH info is present only when PCH is multiplexed on Secondary CCPCH |
| Range Bound | |
| <i>MaxPRACHcount</i> | Maximum number of PRACH's |
| <i>MaxSCCPCHcount</i> | Maximum number of secondary CCPCH's |
| <i>MaxFACHcount</i> | Maximum number of FACH's mapped onto secondary CCPCH's |

| | |
|-----------------------------|--|
| <i>MaxPCHcount</i> | Maximum number of PCH's mapped onto secondary CCPCH's |
| <i>MaxSysInfoBlockcount</i> | Maximum number of references to other system information blocks. |

1.1.1.1.2 10.1.6.4.8 System Information Block type 6

The system information block type 6 contains parameters for the configuration of the common physical channels to be used in connected mode. The block may also contain scheduling information for other system information blocks. The block is optional. When not sent, the MS shall apply in connected mode the values of the similar information indicated for idle mode.

Area scope: cell

UE mode: connected mode

| Information Element | Presence | Range | IE type and reference | Semantics description |
|---|----------|-----------------------------|-----------------------|----------------------------------|
| Other information elements | | | | |
| Value tag | M | | | |
| References to other system information blocks | | 0 .. <maxSysInfoBlockcount> | | |
| | | | | |
| Scheduling information | M | | | |
| PhyCH information elements | | | | |
| Frequency info | O | | | |
| Maximum allowed UL TX power | O | | | |
| Primary CCPCH info | O | | | Note 1 |
| CHOICE <i>mode</i> | | | | |
| FDD | | | | |
| Secondary CPICH info | O | | | Note 2 |
| PRACH information | | 0 .. <maxPRACHcount> | | |
| PRACH info | M | | | |
| TFS | M | | | |
| CHOICE <i>mode</i> | | | | |
| FDD | | | | |
| AICH info | M | | | |
| Secondary CCPCH information | | 0 .. <maxSCCPCHcount> | | |
| Secondary CCPCH info | M | | | |
| TFCS | M | | | For FACHs and PCH |
| FACH/PCH information | | 1 .. <maxFACHcount> | | |
| TFS | | | | For each FACHs and PCH Note 3 |
| PICH info | C-Pich | | | |
| Maximum allowed UL TX power | | | | |
| UE Information elements | | | | |
| UTRAN_DRX_cycle length | | | | |

Note 1: DL scrambling code of the Primary CCPCH is the same as the one for Primary CPICH.

Note 2: This parameter is needed in case of using adaptive array antenna.

Note 3: TFS for PCH shall be listed at the top of FACH/PCH information if PCH exists.(FACHcount=1)

| Condition | Explanation |
|------------------|--|
| <i>Pich</i> | PICH info is present only when PCH is multiplexed on Secondary CCPCH |

| Range Bound | Explanation |
|-----------------------------|--|
| <i>MaxPRACHcount</i> | Maximum number of PRACH's |
| <i>MaxSCCPCHcount</i> | Maximum number of secondary CCPCH's |
| <i>MaxFACHcount</i> | Maximum number of FACH's mapped onto secondary CCPCH's |
| <i>MaxPCHcount</i> | Maximum number of PCH's mapped onto secondary CCPCH's |
| <i>MaxSysInfoBlockcount</i> | Maximum number of references to other system information blocks. |

***** Next modified section *****

10.2.5.4 Transport Format Set (TFS)

| Information Element/Group name | Presence | Range | IE type and reference | Semantics description |
|--|----------|-----------------|---|--|
| <u>CHOICE Transport channel type</u> | | | | |
| <u>>Dedicated transport channels</u> | | | | |
| <u>>>Dynamic Transport Format Information</u> | | 1 to maxTFcount | | The first instance of the parameter <i>Dynamic transport format information</i> correspond to Transport format 0 for this transport channel, the second to transport format 1 and so on. |
| <u>>>>Number of Transport blocks</u> | M | | Integer(0..4095) | |
| <u>Transport Block Size</u> | | | Integer(1..128), Integer(160..40..2040), Integer(2120..80..5000) | |
| <u>>>>CHOICE RLC mode</u> | C-Blocks | | | |
| <u>>>>>CHOICE Transparent mode RLC PDU size</u> | | | | |
| <u>>>>>>Size type 1</u> | | | Enumerated(1..128) | <u>1 bit granularity</u> |
| <u>>>>>>>Size part 1</u> | M | | Enumerated(1..128) | |
| <u>>>>>>>Size type 2</u> | | | Enumerated(136, 144..256) | <u>8 bit granularity</u> |
| <u>>>>>>>>Size part 1</u> | M | | Enumerated(136, 144..256) | |
| <u>>>>>>>>Size part 2</u> | O | | Integer(1..7) | <u>Added to size part 1.</u> |
| <u>>>>>>>>>Size type 3</u> | | | Enumerated(272, 288..1024) | <u>16 bit granularity</u> |
| <u>>>>>>>>>>Size part 1</u> | M | | Enumerated(272, 288..1024) | |
| <u>>>>>>>>>>>Size part 2</u> | O | | Integer(1..15) | <u>Added to size part 1.</u> |
| <u>>>>>>>>>>>>Size type 4</u> | | | Enumerated(1088, 1152..4992) | <u>64 bit granularity</u> |
| <u>>>>>>>>>>>>>Size part 1</u> | M | | Enumerated(1088, 1152..4992) | |
| <u>>>>>>>>>>>>>>Size part 2</u> | O | | Integer(1..63) | <u>Added to size part 1.</u> |
| <u>>>>>>CHOICE Acknowledged mode RLC PDU size</u> | | | | |
| <u>>>>>>>Size type 1</u> | | | Enumerated(24,32..272) | <u>8 bit granularity</u> |
| <u>>>>>>>>Size type 2</u> | | | Enumerated(304, 336..1040) | <u>32 bit granularity</u> |
| <u>>>>>>>>>Size type 3</u> | | | Enumerated(1104, 1168..4944) | <u>64 bit granularity</u> |
| <u>>>>>>CHOICE Unacknowledged mode RLC PDU size</u> | | | | |
| <u>>>>>>>>>>Size type 1</u> | | | Enumerated(16,24..264) | <u>8 bit granularity</u> |
| <u>>>>>>>>>>>>Size type 2</u> | | | Enumerated(296,328..1032) | <u>32 bit granularity 1-3 octets</u> |
| <u>>>>>>>>>>>>>>Size type 3</u> | | | Enumerated(1096,1160..5000) | <u>64 bit granularity 1-7octets</u> |
| <u>>>Semi-static Transport Format</u> | | | | |

| Information | | | | |
|-------------------------------|----------|--|--|--|
| >>>Transmission time interval | <u>M</u> | | Enumerated(10, 20, 40, 80) | |
| >>>Type of channel coding | <u>M</u> | | Enumerated(No coding, Convolutiona I, Turbo) | |
| >>>Coding Rate | C-Coding | | Enumerated(1/2, 1/3) | |
| >>>Rate matching attribute | | | Integer(1..m axRM) | |
| >>>CRC size | M | | Enumerated(0, 8, 16, 24) | |

| | | | | |
|---|----------|-----------------|-----------------------------|--|
| >Common transport channels | | | | |
| >>Dynamic Transport Format Information | | 1 to maxTFcount | | The first instance of the parameter <i>Dynamic transport format information</i> correspond to Transport format 0 for this transport channel, the second to transport format 1 and so on. |
| >>>Number of Transport blocks | M | | Integer(0..4095) | |
| >>>>CHOICE mode | | | | |
| >>>>>FDD | | | | |
| >>>>>>CHOICE <i>Transport block size</i> | C-Blocks | | | |
| >>>>>>>Size type 1 | | | Enumerated(48,56..296) | 8 bit granularity |
| >>>>>>>Size type 2 | | | Enumerated(312,328..1320) | 16 bit granularity |
| >>>>>>>Size type 3 | | | Enumerated(1384,1448..4968) | 64 bit granularity |
| >>>>>TDD | | | | |
| >>>>>>>CHOICE <i>RLC mode</i> | C-Blocks | | | |
| >>>>>>>>CHOICE <i>Transparent mode RLC PDU size</i> | | | | |
| >>>>>>>>>Size type 1 | | | Enumerated(1..128) | 1 bit granularity |
| >>>>>>>>>>Size part 1 | M | | Enumerated(1..128) | |
| >>>>>>>>>>>Size type 2 | | | Enumerated(136,144..256) | 8 bit granularity |
| >>>>>>>>>>>>Size part 1 | M | | Enumerated(136,144..256) | |
| >>>>>>>>>>>>>Size part 2 | O | | Integer (1..7) | Added to size part 1. |
| >>>>>>>>>>>>>>Size type 3 | | | Enumerated(272,288..1024) | 16 bit granularity |
| >>>>>>>>>>>>>>>Size part 1 | M | | Enumerated(272,288..1024) | |
| >>>>>>>>>>>>>>>>Size part 2 | O | | Integer (1..15) | Added to size part 1. |
| >>>>>>>>>>>>>>>>>Size type 4 | | | Enumerated(1088,1152..4992) | 64 bit granularity |
| >>>>>>>>>>>>>>>>>>Size part 1 | M | | Enumerated(1088,1152..4992) | |
| >>>>>>>>>>>>>>>>>>>Size part 2 | O | | Integer (1..63) | Added to size part 1. |
| >>>>>>>>>>>>>>>>>>>>>CHOICE <i>Acknowledged mode RLC PDU size</i> | | | | |
| >>>>>>>>>>>>>>>>>>>>>>>Size type 1 | | | Enumerated(24,32..272) | 8 bit granularity |
| >>>>>>>>>>>>>>>>>>>>>>>>>Size type 2 | | | Enumerated(304,336..1040) | 32 bit granularity |
| >>>>>>>>>>>>>>>>>>>>>>>>>>>>Size type 3 | | | Enumerated(1104,1168..4944) | 64 bit granularity |
| >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>CHOICE <i>Unacknowledged mode RLC PDU size</i> | | | | |
| >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>Size type 1 | | | Enumerated(16,24..264) | 8 bit granularity |
| >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>Size type 2 | | | Enumerated(296,328..1032) | 32 bit granularity |

| | | | | |
|--|-----------------|--|---|--------------------|
| >>>>>>Size type 3 | | | 2) | |
| >>>>>MAC Header Type | <u>Q</u> | | Enumerated(1096,1160..5000) | 64 bit granularity |
| >>Semi-static Transport Format Information | | | | |
| >>>Transmission time interval | <u>M</u> | | Enumerated(10, 20, 40, 80) | |
| >>>Type of channel coding | <u>M</u> | | Enumerated(No coding, Convolutional, Turbo) | |
| >>>Coding Rate | <u>C-Coding</u> | | Enumerated(1/2, 1/3) | |
| >>>Rate matching attribute | <u>M</u> | | Integer(1..maxRM) | |
| >>>CRC size | <u>M</u> | | Enumerated(0, 8, 12, 16, 24) | |

| Condition | Explanation |
|---------------|--|
| <i>Blocks</i> | This IE is only present if IE “Number of Transport Blocks” is greater than 0. |
| <i>Coding</i> | This IE is only present if IE “Type of channel coding” is “Convolutional” or “Turbo” |

| Range Bound | Explanation |
|-------------------|---|
| <i>MaxTFcount</i> | Maximum number of different transport formats that can be included in the Transport format set for one transport channel is 32. |
| <i>MaxRM</i> | Maximum number that could be set as rate matching attribute for a transport channel is 256. |

| <u>CHOICE RLC mode</u> | <u>Condition under which the given RLC mode is chosen</u> |
|---|--|
| <u>Transparent mode RLC PDU size</u> | <u>The RLC entity mapped to this transport channels is using Transparent mode RLC</u> |
| <u>Acknowledged mode RLC PDU size</u> | <u>The RLC entity mapped to this transport channels is using Acknowledged mode RLC</u> |
| <u>Unacknowledged mode RLC PDU size</u> | <u>The RLC entity mapped to this transport channels is using Unacknowledged mode RLC</u> |

| <u>CHOICE Transport channel type</u> | <u>Condition under which the given Transport channel type is chosen</u> |
|--------------------------------------|---|
| <u>Dedicated transport channels</u> | <u>The transport channel that is configured with this TFS is of type DCH</u> |
| <u>Common transport channels</u> | <u>The transport channel that is configured with this TFS is of a type not equal to DCH</u> |

<Note: The parameter “rate matching attribute” is in line with the RAN WG1 specifications. However, it is not currently in line with the description in 25.302.>