TSG-RAN Meeting #12 *RP-010303*
Stockholm, Sweden, 12 - 15 June 2001

Title: **Agreed CRs (Release '99 and Rel-4 category A) to TS 25.302**

Source: **TSG-RAN WG2**

Agenda item: **8.2.3**

Doc-1st-	Status-	Spec	CR	Rev	Phase	Subject	Cat	Version	Versio
R2-011404	agreed	25.302	099	1	R99	Physical Channel Combination	F	3.8.0	3.9.0
R2-011405	agreed	25.302	100		Rel-4	Physical Channel Combination	A	4.0.0	4.1.0
R2-011406	agreed	25.302	101	1	R99	General corrections and clarifications	F	3.8.0	3.9.0
R2-011407	agreed	25.302	102		Rel-4	General corrections and clarifications	A	4.0.0	4.1.0
R2-011157	agreed	25.302	104		R99	Definition of empty TF and TFC	F	3.8.0	3.9.0
R2-011339	agreed	25.302	105		Rel-4	Definition of empty TF and TFC	A	4.0.0	4.1.0

3GPP TSG-RAN WG2 Meeting #21
Busan, Korea, May 21th-25th 2001

Tdoc R2-01404

CR-Form-v3

CHANGE REQUEST

⌘ **25.302** **CR** **099** ⌘ rev **r1** ⌘ Current version: **3.8.0** ⌘

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

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

Title:	⌘	Physical Channel Combinations
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2001-05-27
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:	⌘	1. Position 14 in Table 2 (FDD Dowlink channel combinations) does not correctly reflect the reasons for receiving a PCCPCH of a neighbouring cell. Backwards compatibility Analysis: This CR supports backwards compatibility. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise
Summary of change:	⌘	1. Table 2, FDD downlink, position 14, is updated to clarify that the reason is also to be able to perform “SFN-CFN observed time difference” and “SFN-CFN observed time difference” measurements.
Consequences if not approved:	⌘	1. The specification will be incomplete.

Clauses affected:	⌘	8.2
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.

8.2 FDD Downlink

The table describes the possible combinations of FDD physical channels that can be supported in the downlink on the same frequency by one UE simultaneously.

Table 2: FDD Downlink

	Physical Channel Combination	Transport Channel Combination	Mandatory dependent on UE radio access capabilities	Comment
1	PCCPCH	BCH	Mandatory	
2	SCCPCH	FACH Or PCH Or FACH + PCH	Mandatory	The maximum channel bit rate that can be supported is dependent on the UE radio access capabilities. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
3	PCCPCH + SCCPCH	BCH + (FACH or PCH or (FACH + PCH))	Mandatory	Simultaneous reception of PCCPCH and SCCPCH is only needed at occurrences when the UE needs to read system information on BCH while being in CELL_FACH state, i.e. continuous reception of both PCCPCH and SCCPCH at the same time is not required. The requirement holds for PCCPCH and SCCPCH sent in different cells or in the same cell. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
4	SCCPCH + AICH	(FACH or PCH or (FACH + PCH))+ RACH in uplink Or (FACH or PCH or (FACH + PCH))+ CPCH in uplink	Mandatory	The maximum channel bit rate that can be supported is dependent on the UE radio access capabilities. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH. This physical channel combination facilitates the preamble portion of the CPCH in the uplink
5	SCCPCH + DPCCH	(FACH or PCH or (FACH + PCH))+ CPCH in uplink	Depending on UE radio access capabilities	This physical channel combination facilitates the message portion of the CPCH in the uplink The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
6	More than one SCCPCH	More than one (FACH or PCH or (FACH + PCH))	Depending on UE radio access capabilities	The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
7	PICH	N/A	Mandatory	
8	DPCCH + DPDCH	One or more DCH coded into a single CCTrCH	Mandatory	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.
9	DPCCH + more than one DPDCH	One or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.

	Physical Channel Combination	Transport Channel Combination	Mandatory dependent on UE radio access capabilities	Comment
10	One or more PDSCH + DPCCH + one or more DPDCH	One or more DSCH coded into a single CCTrCH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.
11	SCCPCH + DPCCH + one or more DPDCH	FACH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities. This combination of physical channels is used for DRAC control of an uplink DCH and for receiving services such as cell broadcast or multicast whilst in connected mode. NOTE 1
12	SCCPCH + one or more PDSCH + DPCCH + one or more DPDCH	FACH + one or more DSCH coded into a single CCTrCH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities. This combination of physical channels is used for simultaneous DSCH and DRAC control of an uplink DCH.NOTE 1
13	One DPCCH + more than one DPDCH	More than one DCH coded into one or more CCTrCH	Depending on UE radio access capabilities	
14	PCCPCH (neighbour cell) + DPCCH + one or more DPDCH + zero, one, or more PDSCH	BCH (neighbour cell) + one or more DCHs + zero, one or more DSCH	Mandatory	This combination is required by a UE in CELL_DCH state to be able to read the SFN of a neighbouring cell ~~to~~ and support "SFN-CFN observed time difference" and "SFN-SFN observed time difference" measurements.~~timing maintained hard hand over~~

NOTE 1: When both DRAC and CTCH are configured in one cell, the UTRAN should transmit DRAC info and CTCH info on the same S-CCPCH in order to minimize the number of S-CCPCH to be read by the UE. A UE which supports the simultaneous reception of S-CCPCH and DPCH, shall be capable of switching between different S-CCPCH in order to listen to DRAC info and CTCH info that are not scheduled in the same time intervals. If the UE is ordered to listen to CTCH and DRAC info on different S-CCPCH in the same time interval, it shall listen to DRAC info in priority.

3GPP TSG-RAN WG2 Meeting #21
Busan, Korea, May 21th-25th 2001

Tdoc R2-01405

CR-Form-v3

CHANGE REQUEST

⌘ **25.302** **CR** **100** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

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

Title:	⌘	Physical Channel Combinations
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	2001-05-27
Category:	⌘	**F**
Release:	⌘	REL-4

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)*
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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:	⌘	1. Position 14 in Table 2 (FDD Dowlink channel combinations) does not correctly reflect the reasons for receiving a PCCPCH of a neighbouring cell. Backwards compatibility Analysis: This CR supports backwards compatibility. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise
Summary of change:	⌘	1. Table 2, FDD downlink, position 14, is updated to clarify that the reason is also to be able to perform “SFN-CFN observed time difference” and “SFN-CFN observed time difference” measurements.
Consequences if not approved:	⌘	1. The specification will be incomplete.

Clauses affected:	⌘	8.2
Other specs Affected:	⌘	☐ Other core specifications ☐ Test specifications ☐ O&M Specifications
Other comments:	⌘	

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8.2 FDD Downlink

The table describes the possible combinations of FDD physical channels that can be supported in the downlink on the same frequency by one UE simultaneously.

Table 2: FDD Downlink

	Physical Channel Combination	Transport Channel Combination	Mandatory dependent on UE radio access capabilities	Comment
1	PCCPCH	BCH	Mandatory	
2	SCCPCH	FACH Or PCH Or FACH + PCH	Mandatory	The maximum channel bit rate that can be supported is dependent on the UE radio access capabilities. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
3	PCCPCH + SCCPCH	BCH + (FACH or PCH or (FACH + PCH))	Mandatory	Simultaneous reception of PCCPCH and SCCPCH is only needed at occurrences when the UE needs to read system information on BCH while being in CELL_FACH state, i.e. continuous reception of both PCCPCH and SCCPCH at the same time is not required. The requirement holds for PCCPCH and SCCPCH sent in different cells or in the same cell. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
4	SCCPCH + AICH	(FACH or PCH or (FACH + PCH))+ RACH in uplink Or (FACH or PCH or (FACH + PCH))+ CPCH in uplink	Mandatory	The maximum channel bit rate that can be supported is dependent on the UE radio access capabilities. The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH. This physical channel combination facilitates the preamble portion of the CPCH in the uplink
5	SCCPCH + DPCCH	(FACH or PCH or (FACH + PCH))+ CPCH in uplink	Depending on UE radio access capabilities	This physical channel combination facilitates the message portion of the CPCH in the uplink The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
6	More than one SCCPCH	More than one (FACH or PCH or (FACH + PCH))	Depending on UE radio access capabilities	The PCH is included when the UE needs to receive paging on the SCCPCH. The reception of (FACH + PCH) is to enable the reception of broadcast services on the CTCH, mapped to the FACH.
7	PICH	N/A	Mandatory	
8	DPCCH + DPDCH	One or more DCH coded into a single CCTrCH	Mandatory	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.
9	DPCCH + more than one DPDCH	One or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.

	Physical Channel Combination	Transport Channel Combination	Mandatory dependent on UE radio access capabilities	Comment
10	One or more PDSCH + DPCCH + one or more DPDCH	One or more DSCH coded into a single CCTrCH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities.
11	SCCPCH + DPCCH + one or more DPDCH	FACH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities. This combination of physical channels is used for DRAC control of an uplink DCH and for receiving services such as cell broadcast or multicast whilst in connected mode. NOTE 1
12	SCCPCH + one or more PDSCH + DPCCH + one or more DPDCH	FACH + one or more DSCH coded into a single CCTrCH + one or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependent on UE radio access capabilities. This combination of physical channels is used for simultaneous DSCH and DRAC control of an uplink DCH.NOTE 1
13	One DPCCH + more than one DPDCH	More than one DCH coded into one or more CCTrCH	Depending on UE radio access capabilities	
14	PCCPCH (neighbour cell) + DPCCH + one or more DPDCH + zero, one, or more PDSCH	BCH (neighbour cell) + one or more DCHs + zero, one or more DSCH	Mandatory	This combination is required by a UE in CELL_DCH state to be able to read the SFN of a neighbouring cell ~~to~~ and support "SFN-CFN observed time difference" and "SFN-SFN observed time difference" measurements.~~timing maintained hard hand over~~

NOTE 1: When both DRAC and CTCH are configured in one cell, the UTRAN should transmit DRAC info and CTCH info on the same S-CCPCH in order to minimize the number of S-CCPCH to be read by the UE. A UE which supports the simultaneous reception of S-CCPCH and DPCH, shall be capable of switching between different S-CCPCH in order to listen to DRAC info and CTCH info that are not scheduled in the same time intervals. If the UE is ordered to listen to CTCH and DRAC info on different S-CCPCH in the same time interval, it shall listen to DRAC info in priority.

3GPP TSG-RAN WG2 Meeting #21
Busan, Korea, 21 - 25 May 2001

Tdoc R2-011406

CR-Form-v4

CHANGE REQUEST

⌘ **25.302** **CR** **101** ⌘ rev **r1** ⌘ Current version: **3.8.0** ⌘

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

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

Title:	⌘	General corrections and clarifications
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25 May 2001
Category:	⌘	**F**
Release:	⌘	R99

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

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

Reason for change: ⌘
1. Multi-code transmission for PCPCH is not allowed.
2. There are four types of primitives in this spec, not three types.
3. Primitive-related tables have a different format from other primitive-related tables shown in MAC, RLC, PDCP specs.
4. Primitive-related tables do not have complete parameters listed in section 10.
5. It is not explained that some of primitives are used only for FDD.
6. Primitive type explanation included in each section for each primitive is redundant

Summary of change: ⌘
1. In section 8.1, the channel combination for PCPCH multi-code transmission is deleted.
2. The new description for RESPONSE primitive is added to section 10.
3. The table 7, 8 and 9 are modified in order to accommodate exhaustive parameters listed in section 10 and conform to the table format shown in MAC, RLC, PDCP specs.
4. A statement, 'This primitive is used in FDD only', is added to the descriptions of CPCH-related primitives.
5. Primitive type explanation for each primitive section is removed.

Backwards compatibility analysis :

This CR shall be backwards compatible since no functionality has changed

Consequences if not approved: ⌘ Misalignments between specifications

Clauses affected: ⌘ 8.1, 10, 10.1, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.1.5, 10.1.6, 10.1.7, 10.2, 10.2.1.1, 10.2.1.2, 10.2.1.3, 10.2.1.4, 10.2.1.5, 10.2.1.6, 10.2.2, 10.2.2.1, 10.2.2.2, 10.2.2.3, 10.2.2.4, 10.2.2.5, 10.2.2.6, 10.2.2.7, 10.2.2.8, 10.2.2.9, 10.2.2.10, 10.2.2.11, 10.2.2.12, 10.2.2.13, 10.2.2.14, 10.2.2.15, 10.2.2.16, 10.2.2.17

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

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8.1 FDD Uplink

The table describes the possible combinations of FDD physical channels that can be supported in the uplink on the same frequency by one UE simultaneously.

Table 1: FDD Uplink

	Physical Channel Combination	Transport Channel Combination	Mandatory or dependent on UE radio access capabilities	Comment
1	PRACH	RACH	Mandatory	The PRACH physical channel includes the preambles and the message.
2	PCPCH consisting of one control and one data part during the message portion	CPCH	Depending on UE radio access capabilities	The PCPCH physical channel includes the preambles and the message. The maximum channel bit rate is dependant on UE radio access capabilities.
~~3~~	~~PCPCH consisting of one control and more than one data part during the message portion~~	~~CPCH~~	~~Depending on UE radio access capabilities~~	~~The PCPCH physical channel includes the preambles and the message.~~ ~~The maximum channel bit rate is dependant on UE radio access capabilities.~~
~~4~~ 3	DPCCH+DPDCH	One or more DCH coded into a single CCTrCH	Mandatory	The maximum number of DCHs and the maximum channel bit rate are dependant on UE radio access capabilities.
~~5~~ 4	DPCCH+ more than one DPDCH	One or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependant on UE radio access capabilities.

10 Primitives of the physical layer

The Physical layer interacts with other entities as illustrated in figure 1. The interactions with the MAC layer and the RRC layer are shown in terms of primitives where the primitives represent the logical exchange of information and control between the physical layer and higher layers. They do not specify or constrain implementations. The (adjacent) layers connect to each other through Service Access Points (SAPs). Primitives, therefore, are the conveyers of the information exchange and control through SAPs.

~~Three~~ Four types of primitives are used for the present document, as follows.

- **REQUEST (REQ):**
  - This type is used when a higher layer is requesting a service from a lower layer.
- **INDICATION (IND):**
  - This type is used by a lower layer providing a service to notify its higher layer of activities concerning that higher layer.
- **RESPONSE (RESP):**
  - This type is used by a higher layer providing the indicated service to respond to its lower layer that the activity has been completed.
- **CONFIRM (CNF):**
  - This type is used by a lower layer providing the requested service to confirm to the higher layer that the activity has been completed.

The primitives defined below are for local communications between MAC and L1, as well as RRC and L1 in the same protocol stack.

For the physical layer two sets of primitives are defined:

- **Primitives between layer 1 and 2:**
  - PHY - Generic name - Type: Parameters.
- **Primitives between layer 1 and the RRC entity:**
  - CPHY - Generic name - Type: Parameters.

NOTE: This is a logical description of the primitives and does not cover addressing aspects (e.g. Transport Channel ID, Physical Channel ID, start frame number or disconnect frame number).

10.1 Generic names of primitives between layers 1 and 2

The primitives between layer 1 and layer 2 are shown in table 7.

Table 7: Primitives between layer 1 and 2

Generic Name	Parameter			
	REQ	IND	RESP	CNF
PHY-Access	Transport Format subset (1)	Not Defined	Not Defined	access information (1)
PHY-Data	TFI, Transport Block Set, FN_{CELL}, Paging Indicators (2), ASC selected for that Transport Block Set (3)	TFI, Transport Block Set, CRC check result, TD (4)	Not Defined	Not Defined
PHY-CPCH_Status	Transport Format subset (1)	Not Defined	Not Defined	Transport Format subset (1)
PHY-Status	Not Defined	Event value	Not Defined	Not Defined

NOTE (1): FDD only.
NOTE (2): PCH only
NOTE (3): RACH only
NOTE (4): optional, TDD only

~~Generic Name~~	~~Parameters~~
~~PHY-ACCESS-REQ~~	~~transport format subset (NOTE 1)~~
~~PHY-ACCESS-CNF~~	~~Access Information (NOTE 1)~~
~~PHY-DATA-REQ~~	~~TFI, TBS~~
~~PHY-DATA-IND~~	~~TFI, TBS, CRC result, TD (NOTE 2)~~
~~PHY-CPCH_STATUS-REQ~~	~~transport format subset~~
~~PHY-CPCH_STATUS-CNF~~	~~transport format subset~~
~~PHY-STATUS-IND~~	~~Event value~~

~~NOTE 1: FDD only~~

~~NOTE 2: TDD only.~~

10.1.1 PHY-Access-REQ

The PHY-AccessCCESS-REQ primitive is used to request access to either a RACH or a CPCH transport channel from the physical layer. A PHY-AccessCCESS primitive is submitted once before the actual data for peer-to-peer communication is passed to the physical layer using the PHY-Data primitive. This primitive is used in FDD only.

Primitive Type: request.

Parameters:

- Transport Format subset.

10.1.2 PHY-Access-CNF

The PHY-AccessCCESS-CNF primitive is used to confirm that physical layer synchronisation has been established and that the physical layer is ready for data transmission using the PHY-Data primitive. This primitive is used in FDD only.

Primitive Type: confirm.

Parameters:

- access information.

10.1.3 PHY-Data-REQ

The PHY-DataATA primitives are used to request SDUs used for communications passed to and from the physical layer. One PHY-DataATA primitive is submitted every Transmission Time Interval for each Transport Channel.

Primitive Type: request.

Parameters:

- TFI;
- Transport Block Set;
- FN_{CELL};
- Page indicators Indicators (PIs) (PCH only).
- ASC selected for that Transport Block Set (RACH only)

10.1.4 PHY--Data-IND

The PHY-DataATA primitives are used to indicate SDUs used for Layer 2 passed to and from the physical layer. One PHY-DataATA primitive is submitted every Transmission Time Interval for each Transport Channel.

Primitive Type: indicate.

Parameters:

- TFI;
- Transport Block Set;
- CRC check result;
- TD (RX Timing Deviation measurement) (optional, TDD only).

10.1.5 PHY-CPCH_Status-REQ

The PHY-CPCH_Status~~TATUS~~-REQ primitive is used by MAC to request CPCH status information which is broadcast on CSICH. The parameter Transport Format subset allows to restrict the CPCH status information request to a limited number of CPCH channels of the given CPCH set. This primitive is used in FDD only.

~~Primitive Type:~~ ~~request.~~

Parameters:

- Transport Format subset.

10.1.6 PHY-CPCH_Status-CNF

The PHY-CPCH_Status~~TATUS~~-CNF primitive is used by L1 to indicate CPCH status information which is broadcast on CSICH. Status information is represented in terms of a Transport format subset which is permitted to be employed by the UE. This primitive is used in FDD only.

~~Primitive Type:~~ ~~Confirm~~

Parameters:

- Transport Format subset

10.1.7 PHY-Status-IND

The PHY-Status-IND primitive can be used by the layer 1 to notify higher layers of an event that has occurred.

~~Primitive Type:~~ ~~indication~~

Parameters:

- Event value:
  - CPCH Emergency stop was completed;
  - CPCH Start of Message Indicator was received;
  - CPCH Start of Message Indicator was not received;
  - L1 hardware failure has occurred.
  - CPCH End of Transmission was received

10.2 Generic names of primitives between layers 1 and 3

The status primitives between layer 1 and 3 are shown in table 8.

Table 8: Status primitives between layer 1 and 3

Generic Name	Parameter			
	REQ	IND	RESP	CNF
CPHY-Sync	Not Defined	CCTrCH ID (1)	Not Defined	Not Defined
CPHY-Out-of-Sync	Not Defined	CCTrCH ID (1)	Not Defined	Not Defined
CPHY-Measurement	transmission power threshold, measurement parameters	measurement parameters	Not Defined	Not Defined
CPHY-Error	Not Defined	error code	Not Defined	Not Defined
CPHY-CPCH-EOT	Not Defined	No Parameter (2)	Not Defined	Not Defined
NOTE (1): TDD only. NOTE (2): FDD only				

~~Generic Name~~	~~Parameters~~
~~CPHY-Sync-IND~~	~~none~~
~~CPHY-Out-of-Sync-IND~~	~~none~~
~~CPHY-Measurement-REQ~~	~~Measurement parameters~~
~~CPHY-Measurement-IND~~	~~Measurement parameters~~
~~CPHY-ERROR-IND~~	~~Error Code~~
~~CPHY-CPCH-EOT-IND~~	~~none~~

10.2.1 STATUS PRIMITIVES

10.2.1.1 CPHY-Sync-IND

This primitive is used for L1 to indicate to RRC that synchronisation of a certain physical channel has been done in the receiver. In FDD synchronisation is based on reception of the DPCCH, and in TDD synchronisation is based on Special Burst, TB reception, and burst quality estimation.

~~**Primitive Type:** indication.~~

Parameters:

- CCTrCH ID (TDD only).

10.2.1.2 CPHY-Out-of-Sync-IND

Primitive sent from L1 to RRC indicating that synchronisation of a previously configured connection has been lost in the receiver. In FDD synchronisation is based on reception of the DPCCH, and in TDD synchronisation is based on Special Burst, TB reception, and burst quality estimation.

~~**Primitive Type:** indication.~~

Parameters:

- CCTrCH ID (TDD only).

10.2.1.3 CPHY-Measurement-REQ

The Request primitive is used for RRC to configure L1 measurements.

~~**Primitive Type:** request.~~

Parameters:

- transmission power threshold;
- refer to clause 9 for measurement parameters.

10.2.1.4 CPHY-Measurement-IND

The Indication primitive is used to report the measurement results.

~~**Primitive Type:** indication.~~

Parameters:

- refer to clause 9 for measurement parameters.

10.2.1.5 CPHY-Error~~RROR~~-IND

The CPHY-Error~~RROR~~ primitive is used to indicate to the management entity that an error has occurred as a result of a physical layer fault.

~~**Primitive Type:** indication.~~

Parameters:

- error code.

10.2.1.6 CPHY-CPCH-EOT-IND

The CPHY-CPCH-EOT-IND primitive is used by L1 to indicate RRC of an end of CPCH transmission event has occurred. This primitive is used in FDD only.

~~**Primitive Type:** indication.~~

Parameters:

- ~~none~~No Parameter.

10.2.2 CONTROL PRIMITIVES

The control primitives between layer 1 and 3 are shown in table 9.

Table 9: Control primitives between layer 1 and 3

Generic Name	Parameter			
	REQ	IND	RESP	CNF
CPHY-TrCH-Config	transport channel description	Not Defined	Not Defined	No Parameter
CPHY-TrCH-Release	No Parameter	Not Defined	Not Defined	No Parameter
CPHY-RL-Setup	physical channel description	Not Defined	Not Defined	No Parameter
CPHY-RL-Release	No Parameter	Not Defined	Not Defined	No Parameter
CPHY-RL-Modify	physical channel description	Not Defined	Not Defined	No Parameter
CPHY-Commit	activation time	Not Defined	Not Defined	Not Defined
CPHY-CPCH-Estop	No Parameter (1)	No Parameter (1)	No Parameter (1)	No Parameter (1)
CPHY-Out-of-Sync-Config	Not Defined	Not Defined	Not Defined	No Parameter

NOTE (1): FDD only.

~~Generic Name~~	~~Parameters~~
~~CPHY-TrCH-Config-REQ~~	~~Transport channel description,~~
~~CPHY-TrCH-Config-CNF~~	
~~CPHY-TrCH_Release-REQ~~	
~~CPHY-TrCH_Release-CNF~~	
~~CPHY-RL-Setup-REQ~~	~~Physical channel description~~
~~CPHY-RL-Setup-CNF~~	~~none~~
~~CPHY-RL-Release-REQ~~	~~none~~
~~CPHY-RL-Release-CNF~~	~~none~~
~~CPHY-RL-Modify-REQ~~	~~Physical channel description~~
~~CPHY-RL-Modify-CNF~~	~~none~~
~~CPHY-Commit-REQ~~	~~Activation Time~~
~~CPHY-CPCH-Estop-IND~~	~~none~~
~~CPHY-CPCH-Estop-Resp~~	~~none~~
~~CPHY-CPCH-Estop-REQ~~	~~none~~
~~CPHY-CPCH-Estop-CNF~~	~~none~~
~~CPHY-Out-of-Sync-Config-REQ~~	~~Out of sync detection parameters~~
~~CPHY-Out-of-Sync-Config-CNF~~	~~none~~

10.2.2.1 CPHY-TrCH-Config-REQ

This primitive is used for setting up and configuring a transport channel, and also to modify an existing transport channel.

~~**Primitive Type:** request.~~

Parameters:

- transport channel description.

10.2.2.2 CPHY-TrCH-Config-CNF

This primitive is used for confirming the setting up and configuring a transport channel, and also modifying an existing transport channel.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.3 CPHY-TrCH-Release-REQ

This primitive is used for releasing a transport channel.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.4 CPHY-TrCH-Release-CNF

This primitive is used for confirming the releasing a transport channel.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.5 CPHY-RL-Setup-REQ

The Request primitive is sent from RRC to L1 for establishment of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- physical channel description.

10.2.2.6 CPHY-RL-Setup-CNF

The Confirm primitive is returned from L1 to RRC when the Radio link is established. In case L1 is unable to execute the request, this is indicated in the confirm primitive.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.7 CPHY-RL-Release-REQ

The Request primitive is sent from RRC to L1 for release of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.8 CPHY-RL-Release-CNF

The Confirm primitive is returned from L1 to RRC when the radio link is released.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.9 CPHY- RL-Modify-REQ

The Request primitive is sent from RRC to L1 for modification of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- physical channel description.

10.2.2.10 CPHY-RL-Modify-CNF

The Confirm primitive is returned from L1 to RRC when the radio link is modified. In case L1 is unable to execute the request, this is indicated in the confirm primitive.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.11 CPHY-Commit-REQ

This primitive is sent from RRC to L1 to synchronise UE and NW for the physical channel modification.

~~**Primitive Type:** request.~~

Parameters:

- activation time.

10.2.2.12 CPHY-CPCH-Estop-IND

The CPHY-CPCH-Estop-IND primitive is used by L1 to notify RRC of a CPCH emergency stop message has been received. This primitive is used in FDD only.

~~**Primitive Type**: indication.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.13 CPHY-CPCH-Estop-RESP~~esp~~

This primitive is sent from UE RRC to L1 for emergency stop of the CPCH transmission. After receiving this primitive, UE L1 stopping its transmission on the related CPCH. This primitive is used in FDD only.

~~**Primitive Type:** response.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.14 CPHY-CPCH-Estop-REQ

This primitive is sent from RRC to L1 for CPCH Emergency Stop. This primitive is sent for triggering of a CPCH emergency stop. After receiving this primitive, Node B L1 sends CPCH Estop Command to UE. This CPCH Estop Command is all 1 bits pattern in the CCC field of DL DPCCH for CPCH. This primitive is used in FDD only.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.15 CPHY-CPCH-Estop-CNF

This primitive is sent from Node B L1 to RRC for confirming the emergency stop of the CPCH. This primitive is used in FDD only.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.16 CPHY-Out-of-Sync-Config-REQ

This primitive is sent from RRC to Node B L1 to reconfigure the parameters to detect "in sync" and "out of sync" conditions of uplink physical channel transmission.

~~**Primitive Type:** request.~~

Parameters:

- Out of Sync detection parameters

10.2.2.17 CPHY-Out-of-Sync-Config-CNF

This primitive is sent from Node B L1 to RRC for confirming the Reconfiguration of the Out-of-Sync parameters on Node B L1.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

3GPP TSG-RAN WG2 Meeting #21
Busan, Korea, 21 - 25 May 2001

Tdoc R2-011407

CR-Form-v4

CHANGE REQUEST

⌘ **25.302** **CR** **102** ⌘ rev **-** ⌘ Current version: **4.0.0** ⌘

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

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

Title:	⌘	General corrections and clarifications
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	25 May 2001
Category:	⌘	**A**
Release:	⌘	REL-4

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

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

Reason for change: ⌘
1. Multi-code transmission for PCPCH is not allowed.
2. There are four types of primitives in this spec, not three types.
3. Primitive-related tables have a different format from other primitive-related tables shown in MAC, RLC, PDCP specs.
4. Primitive-related tables do not have complete parameters listed in section 10.
5. It is not explained that some of primitives are used only for FDD.
6. Primitive type explanation included in each section for each primitive is redundant

Summary of change: ⌘
1. In section 8.1, the channel combination for PCPCH multi-code transmission is deleted.
2. The new description for RESPONSE primitive is added to section 10.
3. The table 7, 8 and 9 are modified in order to accommodate exhaustive parameters listed in section 10 and conform to the table format shown in MAC, RLC, PDCP specs.
4. A statement, 'This primitive is used in FDD only', is added to the descriptions of CPCH-related primitives.
5. Primitive type explanation for each primitive section is removed.

Backwards compatibility analysis :

This CR shall be backwards compatible since no functionality has changed

Consequences if not approved: ⌘ Misalignments between specifications

Clauses affected: ⌘ 8.1, 10, 10.1, 10.1.1, 10.1.2, 10.1.3, 10.1.4, 10.1.5, 10.1.6, 10.1.7, 10.2, 10.2.1.1, 10.2.1.2, 10.2.1.3, 10.2.1.4, 10.2.1.5, 10.2.1.6, 10.2.2, 10.2.2.1, 10.2.2.2, 10.2.2.3, 10.2.2.4, 10.2.2.5, 10.2.2.6, 10.2.2.7, 10.2.2.8, 10.2.2.9, 10.2.2.10, 10.2.2.11, 10.2.2.12, 10.2.2.13, 10.2.2.14, 10.2.2.15, 10.2.2.16, 10.2.2.17

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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.1 FDD Uplink

The table describes the possible combinations of FDD physical channels that can be supported in the uplink on the same frequency by one UE simultaneously.

Table 1: FDD Uplink

	Physical Channel Combination	Transport Channel Combination	Mandatory or dependent on UE radio access capabilities	Comment
1	PRACH	RACH	Mandatory	The PRACH physical channel includes the preambles and the message.
2	PCPCH consisting of one control and one data part during the message portion	CPCH	Depending on UE radio access capabilities	The PCPCH physical channel includes the preambles and the message. The maximum channel bit rate is dependant on UE radio access capabilities.
~~3~~	~~PCPCH consisting of one control and more than one data part during the message portion~~	~~CPCH~~	~~Depending on UE radio access capabilities~~	~~The PCPCH physical channel includes the preambles and the message.~~ ~~The maximum channel bit rate is dependant on UE radio access capabilities.~~
~~4~~ 3	DPCCH+DPDCH	One or more DCH coded into a single CCTrCH	Mandatory	The maximum number of DCHs and the maximum channel bit rate are dependant on UE radio access capabilities.
~~5~~ 4	DPCCH+ more than one DPDCH	One or more DCH coded into a single CCTrCH	Depending on UE radio access capabilities	The maximum number of DCHs and the maximum channel bit rate are dependant on UE radio access capabilities.

10 Primitives of the physical layer

The Physical layer interacts with other entities as illustrated in figure 1. The interactions with the MAC layer and the RRC layer are shown in terms of primitives where the primitives represent the logical exchange of information and control between the physical layer and higher layers. They do not specify or constrain implementations. The (adjacent) layers connect to each other through Service Access Points (SAPs). Primitives, therefore, are the conveyers of the information exchange and control through SAPs.

~~Three~~ Four types of primitives are used for the present document, as follows.

- **REQUEST (REQ):**
  - This type is used when a higher layer is requesting a service from a lower layer.
- **INDICATION (IND):**
  - This type is used by a lower layer providing a service to notify its higher layer of activities concerning that higher layer.
- **RESPONSE (RESP):**
  - This type is used by a higher layer providing the indicated service to respond to its lower layer that the activity has been completed.
- **CONFIRM (CNF):**
  - This type is used by a lower layer providing the requested service to confirm to the higher layer that the activity has been completed.

The primitives defined below are for local communications between MAC and L1, as well as RRC and L1 in the same protocol stack.

For the physical layer two sets of primitives are defined:

- **Primitives between layer 1 and 2:**
  - PHY - Generic name - Type: Parameters.
- **Primitives between layer 1 and the RRC entity:**
  - CPHY - Generic name - Type: Parameters.

NOTE: This is a logical description of the primitives and does not cover addressing aspects (e.g. Transport Channel ID, Physical Channel ID, start frame number or disconnect frame number).

10.1 Generic names of primitives between layers 1 and 2

The primitives between layer 1 and layer 2 are shown in table 7.

Table 7: Primitives between layer 1 and 2

Generic Name	Parameter			
	REQ	IND	RESP	CNF
PHY-Access	Transport Format subset (1)	Not Defined	Not Defined	access information (1)
PHY-Data	TFI, Transport Block Set, FN_{CELL}, Paging Indicators (2), ASC selected for that Transport Block Set (3)	TFI, Transport Block Set, CRC check result, TD (4)	Not Defined	Not Defined
PHY-CPCH_Status	Transport Format subset (1)	Not Defined	Not Defined	Transport Format subset (1)
PHY-Status	Not Defined	Event value	Not Defined	Not Defined

NOTE (1): FDD only.
NOTE (2): PCH only
NOTE (3): RACH only
NOTE (4): optional, TDD only

~~Generic Name~~	~~Parameters~~
~~PHY-ACCESS-REQ~~	~~transport format subset (NOTE 1)~~
~~PHY-ACCESS-CNF~~	~~Access Information (NOTE 1)~~
~~PHY-DATA-REQ~~	~~TFI, TBS~~
~~PHY-DATA-IND~~	~~TFI, TBS, CRC result, TD (NOTE 2)~~
~~PHY-CPCH_STATUS-REQ~~	~~transport format subset~~
~~PHY-CPCH_STATUS-CNF~~	~~transport format subset~~
~~PHY-STATUS-IND~~	~~Event value~~

~~NOTE 1: FDD only~~

~~NOTE 2: TDD only.~~

10.1.1 PHY-Access-REQ

The PHY-AccessCCESS-REQ primitive is used to request access to either a RACH or a CPCH transport channel from the physical layer. A PHY-AccessCCESS primitive is submitted once before the actual data for peer-to-peer communication is passed to the physical layer using the PHY-Data primitive. This primitive is used in FDD only.

Primitive Type: request.

Parameters:

- Transport Format subset.

10.1.2 PHY-Access-CNF

The PHY-AccessCCESS-CNF primitive is used to confirm that physical layer synchronisation has been established and that the physical layer is ready for data transmission using the PHY-Data primitive. This primitive is used in FDD only.

Primitive Type: confirm.

Parameters:

- access information.

10.1.3 PHY-Data-REQ

The PHY-DataATA primitives are used to request SDUs used for communications passed to and from the physical layer. One PHY-DataATA primitive is submitted every Transmission Time Interval for each Transport Channel.

Primitive Type: request.

Parameters:

- TFI;
- Transport Block Set;
- FN_{CELL};
- Page indicators Indicators (PIs) (PCH only).
- ASC selected for that Transport Block Set (RACH only)

10.1.4 PHY- Data-IND

The PHY-DataATA primitives are used to indicate SDUs used for Layer 2 passed to and from the physical layer. One PHY-DataATA primitive is submitted every Transmission Time Interval for each Transport Channel.

Primitive Type: indicate.

Parameters:

- TFI;
- Transport Block Set;
- CRC check result;
- TD (RX Timing Deviation measurement) (optional, TDD only).

10.1.5 PHY-CPCH_Status-REQ

The PHY-CPCH_Status~~TATUS~~-REQ primitive is used by MAC to request CPCH status information which is broadcast on CSICH. The parameter Transport Format subset allows to restrict the CPCH status information request to a limited number of CPCH channels of the given CPCH set. This primitive is used in FDD only.

~~Primitive Type:~~ ~~request.~~

Parameters:

- Transport Format subset.

10.1.6 PHY-CPCH_Status-CNF

The PHY-CPCH_Status~~TATUS~~-CNF primitive is used by L1 to indicate CPCH status information which is broadcast on CSICH. Status information is represented in terms of a Transport format subset which is permitted to be employed by the UE. This primitive is used in FDD only.

~~Primitive Type:~~ ~~Confirm~~

Parameters:

- Transport Format subset

10.1.7 PHY-Status-IND

The PHY-Status-IND primitive can be used by the layer 1 to notify higher layers of an event that has occurred.

~~Primitive Type:~~ ~~indication~~

Parameters:

- Event value:
  - CPCH Emergency stop was completed;
  - CPCH Start of Message Indicator was received;
  - CPCH Start of Message Indicator was not received;
  - L1 hardware failure has occurred.
  - CPCH End of Transmission was received

10.2 Generic names of primitives between layers 1 and 3

The status primitives between layer 1 and 3 are shown in table 8.

Table 8: Status primitives between layer 1 and 3

Generic Name	Parameter			
	REQ	IND	RESP	CNF
CPHY-Sync	Not Defined	CCTrCH ID (1)	Not Defined	Not Defined
CPHY-Out-of-Sync	Not Defined	CCTrCH ID (1)	Not Defined	Not Defined
CPHY-Measurement	transmission power threshold, measurement parameters	measurement parameters	Not Defined	Not Defined
CPHY-Error	Not Defined	error code	Not Defined	Not Defined
CPHY-CPCH-EOT	Not Defined	No Parameter (2)	Not Defined	Not Defined

NOTE (1): TDD only.
NOTE (2): FDD only

~~Generic Name~~	~~Parameters~~
~~CPHY-Sync-IND~~	~~none~~
~~CPHY-Out-of-Sync-IND~~	~~none~~
~~CPHY-Measurement-REQ~~	~~Measurement parameters~~
~~CPHY-Measurement-IND~~	~~Measurement parameters~~
~~CPHY-ERROR-IND~~	~~Error Code~~
~~CPHY-CPCH-EOT-IND~~	~~none~~

10.2.1 STATUS PRIMITIVES

10.2.1.1 CPHY-Sync-IND

This primitive is used for L1 to indicate to RRC that synchronisation of a certain physical channel has been done in the receiver. In FDD synchronisation is based on reception of the DPCCH, and in TDD synchronisation is based on Special Burst, TB reception, and burst quality estimation.

~~**Primitive Type:** indication.~~

Parameters:

- CCTrCH ID (TDD only).

10.2.1.2 CPHY-Out-of-Sync-IND

Primitive sent from L1 to RRC indicating that synchronisation of a previously configured connection has been lost in the receiver. In FDD synchronisation is based on reception of the DPCCH, and in TDD synchronisation is based on Special Burst, TB reception, and burst quality estimation.

~~**Primitive Type:** indication.~~

Parameters:

- CCTrCH ID (TDD only).

10.2.1.3 CPHY-Measurement-REQ

The Request primitive is used for RRC to configure L1 measurements.

~~**Primitive Type:** request.~~

Parameters:

- transmission power threshold;
- refer to clause 9 for measurement parameters.

10.2.1.4 CPHY-Measurement-IND

The Indication primitive is used to report the measurement results.

~~**Primitive Type:** indication.~~

Parameters:

- refer to clause 9 for measurement parameters.

10.2.1.5 CPHY-Error~~RROR~~-IND

The CPHY-Error~~RROR~~ primitive is used to indicate to the management entity that an error has occurred as a result of a physical layer fault.

~~**Primitive Type:** indication.~~

Parameters:

- error code.

10.2.1.6 CPHY-CPCH-EOT-IND

The CPHY-CPCH-EOT-IND primitive is used by L1 to indicate RRC of an end of CPCH transmission event has occurred. This primitive is used in FDD only.

~~**Primitive Type:** indication.~~

Parameters:

- ~~none~~No Parameter.

10.2.2 CONTROL PRIMITIVES

The control primitives between layer 1 and 3 are shown in table 9.

Table 9: Control primitives between layer 1 and 3

Generic Name	Parameter			
	REQ	IND	RESP	CNF
CPHY-TrCH-Config	transport channel description	Not Defined	Not Defined	No Parameter
CPHY-TrCH-Release	No Parameter	Not Defined	Not Defined	No Parameter
CPHY-RL-Setup	physical channel description	Not Defined	Not Defined	No Parameter
CPHY-RL-Release	No Parameter	Not Defined	Not Defined	No Parameter
CPHY-RL-Modify	physical channel description	Not Defined	Not Defined	No Parameter
CPHY-Commit	activation time	Not Defined	Not Defined	Not Defined
CPHY-CPCH-Estop	No Parameter (1)	No Parameter (1)	No Parameter (1)	No Parameter (1)
CPHY-Out-of-Sync-Config	Not Defined	Not Defined	Not Defined	No Parameter

NOTE (1): FDD only.

~~Generic Name~~	~~Parameters~~
~~CPHY-TrCH-Config-REQ~~	~~Transport channel description,~~
~~CPHY-TrCH-Config-CNF~~	
~~CPHY-TrCH_Release-REQ~~	
~~CPHY-TrCH_Release-CNF~~	
~~CPHY-RL-Setup-REQ~~	~~Physical channel description~~
~~CPHY-RL-Setup-CNF~~	~~none~~
~~CPHY-RL-Release-REQ~~	~~none~~
~~CPHY-RL-Release-CNF~~	~~none~~
~~CPHY-RL-Modify-REQ~~	~~Physical channel description~~
~~CPHY-RL-Modify-CNF~~	~~none~~
~~CPHY-Commit-REQ~~	~~Activation Time~~
~~CPHY-CPCH-Estop-IND~~	~~none~~
~~CPHY-CPCH-Estop-Resp~~	~~none~~
~~CPHY-CPCH-Estop-REQ~~	~~none~~
~~CPHY-CPCH-Estop-CNF~~	~~none~~
~~CPHY-Out-of-Sync-Config-REQ~~	~~Out of sync detection parameters~~
~~CPHY-Out-of-Sync-Config-CNF~~	~~none~~

10.2.2.1 CPHY-TrCH-Config-REQ

This primitive is used for setting up and configuring a transport channel, and also to modify an existing transport channel.

~~**Primitive Type:** request.~~

Parameters:

- transport channel description.

10.2.2.2 CPHY-TrCH-Config-CNF

This primitive is used for confirming the setting up and configuring a transport channel, and also modifying an existing transport channel.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.3 CPHY-TrCH-Release-REQ

This primitive is used for releasing a transport channel.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.4 CPHY-TrCH-Release-CNF

This primitive is used for confirming the releasing a transport channel.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.5 CPHY-RL-Setup-REQ

The Request primitive is sent from RRC to L1 for establishment of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- physical channel description.

10.2.2.6 CPHY-RL-Setup-CNF

The Confirm primitive is returned from L1 to RRC when the Radio link is established. In case L1 is unable to execute the request, this is indicated in the confirm primitive.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.7 CPHY-RL-Release-REQ

The Request primitive is sent from RRC to L1 for release of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.8 CPHY-RL-Release-CNF

The Confirm primitive is returned from L1 to RRC when the radio link is released.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.9 CPHY- RL-Modify-REQ

The Request primitive is sent from RRC to L1 for modification of a Radio link to a certain UE.

~~**Primitive Type:** request.~~

Parameters:

- physical channel description.

10.2.2.10 CPHY-RL-Modify-CNF

The Confirm primitive is returned from L1 to RRC when the radio link is modified. In case L1 is unable to execute the request, this is indicated in the confirm primitive.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.11 CPHY-Commit-REQ

This primitive is sent from RRC to L1 to synchronise UE and NW for the physical channel modification.

~~**Primitive Type:** request.~~

Parameters:

- activation time.

10.2.2.12 CPHY-CPCH-Estop-IND

The CPHY-CPCH-Estop-IND primitive is used by L1 to notify RRC of a CPCH emergency stop message has been received. This primitive is used in FDD only.

~~**Primitive Type**: indication.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.13 CPHY-CPCH-Estop-RESP~~esp~~

This primitive is sent from UE RRC to L1 for emergency stop of the CPCH transmission. After receiving this primitive, UE L1 stopping its transmission on the related CPCH. This primitive is used in FDD only.

~~**Primitive Type:** response.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.14 CPHY-CPCH-Estop-REQ

This primitive is sent from RRC to L1 for CPCH Emergency Stop. This primitive is sent for triggering of a CPCH emergency stop. After receiving this primitive, Node B L1 sends CPCH Estop Command to UE. This CPCH Estop Command is all 1 bits pattern in the CCC field of DL DPCCH for CPCH. This primitive is used in FDD only.

~~**Primitive Type:** request.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.15 CPHY-CPCH-Estop-CNF

This primitive is sent from Node B L1 to RRC for confirming the emergency stop of the CPCH. This primitive is used in FDD only.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

10.2.2.16 CPHY-Out-of-Sync-Config-REQ

This primitive is sent from RRC to Node B L1 to reconfigure the parameters to detect "in sync" and "out of sync" conditions of uplink physical channel transmission.

~~**Primitive Type:** request.~~

Parameters:

- Out of Sync detection parameters

10.2.2.17 CPHY-Out-of-Sync-Config-CNF

This primitive is sent from Node B L1 to RRC for confirming the Reconfiguration of the Out-of-Sync parameters on Node B L1.

~~**Primitive Type:** confirm.~~

Parameters:

- ~~none~~No Parameter.

3GPP TSG-RAN Meeting #21
Busan, Korea, 5/21/2001

R2-011157

CR-Form-v4

CHANGE REQUEST

⌘ **25.302** **CR** **104** ⌘ ev **-** ⌘ Current version: **3.8.0** ⌘

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

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

Title:	⌘	Definition of empty TF and TFC
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	5/15/2001
Category:	⌘	**F**
Release:	⌘	R99

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

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

Reason for change:	⌘	The concepts of empty TF and empty TFC were used in the framework of the TFCS selection guidelines introduced in 25.331. Introducing their definitions in 25.302 instead of 25.331 will simplify their use in the future.
Summary of change:	⌘	The definition of empty TF and TFC were added in the corresponding sections. Backward Compatibility Analysis: The change is backward compatible. Correction to a function where the specification was : • ambiguous or not sufficiently explicit. Would not affect implementations behaving like indicated in the CR, would affect implementations supporting the corrected functionality otherwise. ~~This change is backward compatible since it does not have any impact on the protocol.~~
Consequences if not approved:	⌘	The term empty TFC is already used in the text of 25.331 with only an example provided as an explanation. This may lead to misinterpretation of the standard in the future.

Clauses affected:	⌘	7.1.6, 7.1.8
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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

7.1.6 Transport Format

This is defined as a format offered by L1 to MAC (and vice versa) for the delivery of a Transport Block Set during a Transmission Time Interval on a Transport Channel. The Transport Format constitutes of two parts – one *dynamic* part and one *semi-static* part.
Attributes of the dynamic part are:

- Transport Block Size;
- Transport Block Set Size;
- Transmission Time Interval (optional dynamic attribute for TDD only);

Attributes of the semi-static part are:

- Transmission Time Interval (mandatory for FDD, optional for the dynamic part of TDD NRT bearers);
- error protection scheme to apply:
  - type of error protection, turbo code, convolutional code or no channel coding;
  - coding rate;
  - static rate matching parameter;
- size of CRC.

In the following example, the Transmission Time Interval is seen as a semi-static part.

EXAMPLE:
Dynamic part: {320 bits, 640 bits}, Semi-static part: {10ms, convolutional coding only, static rate matching parameter = 1}.

An empty Transport Format is defined as a Transport Format that has Block Set Size equal to zero.

7.1.7 Transport Format Set

This is defined as the set of Transport Formats associated to a Transport Channel.
The semi-static parts of all Transport Formats are the same within a Transport Format Set.
Effectively the first two attributes of the dynamic part form the instantaneous bit rate on the Transport Channel. Variable bit rate on a Transport Channel may, depending on the type of service, which is mapped onto the transport channel, be achieved by changing between each Transmission Time Interval one of the following:

1. the Transport Block Set Size only;
2. both the Transport Block Size and the Transport Block Set Size Example 1:
   - dynamic part: {20 bits, 20 bits}; {40 bits, 40 bits}; {80 bits, 80 bits}; {160 bits, 160 bits}.
   - Semi-static part: {10ms, Convolutional coding only, static rate matching parameter = 1}
     Example 2:
     - dynamic part: {320 bits, 320 bits}; {320 bits, 640 bits}; {320 bits, 1 280 bits}.
   - Semi-static part: {10ms, Convolutional coding only, static rate matching parameter = 2}.

The first example may correspond to a Transport Channel carrying a speech service, requiring blocks delivered on a constant time basis. In the second example, which illustrates the situation where a non-real time service is carried by the Transport Channel, the number of blocks delivered per Transmission Time Interval varies between the different Transport Formats within the Transport Format Set. Referring to figure 6, the Transport Block Size is varied on DCH1 and DCH2. That is, a Transport Format Set where the

dynamic part has a variable Transport Block Size has been assigned for DCH1. On DCH3 it is instead only the Transport Block Set Size that is varied. That is, the dynamic parts of the corresponding Transport Format Sets only include variable Transport Block Set Sizes.

7.1.8 Transport Format Combination

The layer 1 multiplexes one or several Transport Channels, and for each Transport Channel, there exists a list of transport formats (Transport Format Set) which are applicable. Nevertheless, at a given point of time, not all combinations may be submitted to layer 1 but only a subset, the Transport Format Combination. This is defined as an authorised combination of the combination of currently valid Transport Formats that can be submitted simultaneously to the layer 1 for transmission on a Coded Composite Transport Channel of a UE, i.e. containing one Transport Format from each Transport Channel.

EXAMPLE:

DCH1:
Dynamic part: {20 bits, 20 bits}, Semi-static part: {10ms, Convolutional coding only, static rate matching parameter = 2};

DCH2:
Dynamic part: {320 bits, 1 280 bits}, Semi-static part: {10ms, Convolutional coding only, static rate matching parameter = 3};

DCH3:
Dynamic part: {320 bits, 320 bits}, Semi-static part: {40ms, Turbo coding, static rate matching parameter = 2}.

An empty Transport Format Combination is defined as a Transport Format Combination that is only made up of empty Transport Formats.

3GPP TSG-RAN Meeting #21
Busan, Korea, 5/21/2001

R2-011339

CR-Form-v4

CHANGE REQUEST

⌘ **25.302** **CR** **105** ⌘ ev **-** ⌘ Current version: **4.0.0** ⌘

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

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

Title:	⌘	Definition of empty TF and TFC
Source:	⌘	TSG-RAN WG2
Work item code:	⌘	TEI
Date:	⌘	5/15/2001
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
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Reason for change:	⌘	The concepts of empty TF and empty TFC were used in the framework of the TFCS selection guidelines introduced in 25.331. Introducing their definitions in 25.302 instead of 25.331 will simplify their use in the future.
Summary of change:	⌘	The definition of empty TF and TFC were added in the corresponding sections.
Consequences if not approved:	⌘	The term empty TFC is already used in the text of 25.331 with only an example provided as an explanation. This may lead to misinterpretation of the standard in the future.

Clauses affected:	⌘	7.1.6, 7.1.8
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Other comments:	⌘	

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Dynamic part: {320 bits, 1 280 bits}, Semi-static part: {10ms, Convolutional coding only, static rate matching parameter = 3};

DCH3:
Dynamic part: {320 bits, 320 bits}, Semi-static part: {40ms, Turbo coding, static rate matching parameter = 2}.

An empty Transport Format Combination is defined as a Transport Format Combination that is only made up of empty Transport Formats.