3GPP TSG-RAN Meeting #22 ***Tdoc ⌘ RP-030660***
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CR-Form-v7

CHANGE REQUEST

⌘ **25.222** **CR** **120** ⌘**rev** **-** ⌘ Current version: **5.5.0** ⌘

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

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

Title:	⌘	HARQ process identifier mapping
Source:	⌘	NEC
Work item code:	⌘	HSDPA-Phys
Date:	⌘	02/12/2003
Category:	⌘	**F**
Release:	⌘	Rel-5

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

Use one of the following releases:

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

Reason for change:	⌘	Common understanding seems to be that this 3bit HARQ process information in section 4.6 of TS 25.222 is unsigned binary presentation of the HARQ process identifier. However it is not clearly said so and the terminology 'HARQ process identifier' does not appear in TS 25.222.
Summary of change:	⌘	Add new section 4.6.1.7 to clarify HARQ process identifier mapping New section 4.6.1.8 to clarify transport block size index mapping is also added for completeness
Consequences if not approved:	⌘	Ambiguity in mapping of HARQ process identifier into HARQ process information remains. <Isolated Impact Analysis> There should be no impact if UE is implemented according to the clarification.

Clauses affected:	⌘	4.6.1			
		Y	**N**		
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/specs/CR.htm.
Below is a brief summary:

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

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

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

4.6.1 HS-SCCH information field mapping

4.6.1.1 Channelisation code set information mapping

HS-PDSCH channelisation codes are allocated contiguously from a signalled start code to a signalled stop code, and the allocation includes both the start and stop code. The start code k_{start} is signalled by the bits $x_{ccs,1}$, $x_{ccs,2,}$ $x_{ccs,3}$, $x_{ccs,4}$ and the stop code k_{stop} by the bits $x_{ccs,5}$, $x_{ccs,6,}$ $x_{ccs,7}$, $x_{ccs,8}$. The mapping in Table 16 below applies.

Table 16: Channelisation code set information mapping

k_{start}	$x_{ccs,1}$	$x_{ccs,2}$	$x_{ccs,3}$	$x_{ccs,4}$	k_{stop}	$x_{ccs,5}$	$x_{ccs,6}$	$x_{ccs,7}$	$x_{ccs,8}$
1	0	0	0	0	1	0	0	0	0
2	0	0	0	1	2	0	0	0	1
3	0	0	1	0	3	0	0	1	0
4	0	0	1	1	4	0	0	1	1
5	0	1	0	0	5	0	1	0	0
6	0	1	0	1	6	0	1	0	1
7	0	1	1	0	7	0	1	1	0
8	0	1	1	1	8	0	1	1	1
9	1	0	0	0	9	1	0	0	0
10	1	0	0	1	10	1	0	0	1
11	1	0	1	0	11	1	0	1	0
12	1	0	1	1	12	1	0	1	1
13	1	1	0	0	13	1	1	0	0
14	1	1	0	1	14	1	1	0	1
15	1	1	1	0	15	1	1	1	0
16	1	1	1	1	16	1	1	1	1

If a value of k_{start} = 16 and k_{stop} = 1 is signalled, a spreading factor of SF=1 shall be used for the HS-PDSCH resources. Other than this case, $k_{start} > k_{stop}$ shall be treated as an error by the UE.

4.6.1.2 Timeslot information mapping

4.6.1.2.1 1.28 Mcps TDD

For 1.28 Mcps, the timeslots to be used for HS-PDSCH resources are signalled by the bits $x_{ts,1}$, $x_{ts,2}$, …, $x_{ts,5}$, where bit $x_{ts,n}$ carries the information for timeslot n+1. Timeslots 0 and 1 cannot be used for HS-DSCH resources. If the signalling bit is set (i.e. equal to 1), then the corresponding timeslot shall be used for HS-PDSCH resources. Otherwise, the timeslot shall not be used. All used timeslots shall use the same channelisation code set, as signalled by the channelisation code set information bits.

4.6.1.2.2 3.84 Mcps TDD

For 3.84 Mcps, the timeslots to be used for HS-PDSCH resources are signalled by the bits $x_{ts,1}$, $x_{ts,2}$, …, $x_{ts,13}$, where bit $x_{ts,n}$ carries the information for the n^{th} available timeslot for HS-PDSCH resources, where the order of the timeslots available for HS-PDSCH resources shall be the same as the order of the 15 time slots within each frame with the following two slots removed:

- The slot containing the P-CCPCH
- The first slot in a frame containing the PRACH

If the P-CCPCH and/or PRACH are assigned to some, but not all frames, then the corresponding time slots shall remain unavailable for these frames as well..

If the bit is set (i.e. equal to 1), then the corresponding timeslot shall be used for HS-PDSCH resources. Otherwise, the timeslot shall not be used. All used timeslots shall use the same channelisation code set, as signalled by the channelisation code set information bits.

4.6.1.3 Modulation scheme information mapping

The modulation scheme to be used by the HS-PDSCH resources shall be signalled by bit $x_{ms,1}$. The mapping scheme in Table 17 shall apply.

Table 17: Modulation scheme information mapping

$x_{ms,1}$	Modulation Scheme
0	QPSK
1	16-QAM

4.6.1.4 Redundancy and constellation version information mapping

The redundancy version (RV) parameters *r*, *s* and constellation version parameter *b* are mapped jointly to produce the value X_{rv}. X_{rv} is alternatively represented as the sequence $x_{rv,1}$, $x_{rv,2}$, $x_{rv,3}$ where $x_{rv,1}$ is the MSB. This is done according to the following tables according to the modulation mode used:

Table 18: RV mapping for 16 QAM

X_{rv} (value)	S	r	b
0	1	0	0
1	0	0	0
2	1	1	1
3	0	1	1
4	1	0	1
5	1	0	2
6	1	0	3
7	1	1	0

Table 19: RV mapping for QPSK

X_{rv} (value)	s	r
0	1	0
1	0	0
2	1	1
3	0	1
4	1	2
5	0	2
6	1	3
7	0	3

4.6.1.5 HS-SCCH cyclic sequence number

The HS-SCCH cyclic sequence number is mapped such that $x_{hcsn,1}$ corresponds to the MSB and $x_{hcsn,3}$ to the LSB.

4.6.1.6 UE identity

The UE identity is the HS-DSCH Radio Network Identifier (H-RNTI) defined in [12]. This is mapped such that $x_{ue,1}$ corresponds to the MSB and $x_{ue,16}$ to the LSB, cf. [14].

4.6.1.7 HARQ process identifier mapping

The hybrid-ARQ process information $x_{hap,1}$, $x_{hap,2}$, $x_{hap,3}$ is unsigned binary representation of the HARQ process identifier where $x_{hap,1}$ is MSB.

4.6.1.8 Transport block size index mapping

The transport-block size information $x_{tbs,1}$, $x_{tbs,2}$, …, $x_{tbs,m}$ is unsigned binary representation of the transport block size index where $x_{tbs,1}$ is MSB.