CR-Form-v7

CHANGE REQUEST

| ⌘ | **25.212 CR 158** | ⌘**rev** | **1** | ⌘ | Current version: | **5.1.0** | ⌘ |

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

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

Title: ⌘	Specification of H-RNTI to UE identity mapping	
Source: ⌘	Siemens	
Work item code:⌘	HSDPA-Phys	***Date:*** ⌘ 02/09/2002
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: ⌘	The H-RNTI to UE identity mapping is currently specified twice in 25.212.
Summary of change:⌘	The mapping is specified in a separate section. Unncessary specification of "unsigned binary" form removed. A reference is added to the ASN.1 specifcation where MSB and LSB of bitstrings are defined.
Consequences if not approved: ⌘	Maintenance of 25.212 will be more difficult and error prone in the event that the mapping is ever changed.

Clauses affected: ⌘	4.6.2.4, 4.6.4, 4.6.7

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	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.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   3GPP TS 25.201: "Physical layer – General Description".

[2]   3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".

[3]   3GPP TS 25.213: "Spreading and modulation (FDD)".

[4]   3GPP TS 25.214: "Physical layer procedures (FDD)".

[5]   3GPP TS 25.215: "Physical layer – Measurements (FDD)".

[6]   3GPP TS 25.221: "Physical channels and mapping of transport channels onto physical channels (TDD)".

[7]   3GPP TS 25.222: "Multiplexing and channel coding (TDD)".

[8]   3GPP TS 25.223: "Spreading and modulation (TDD)".

[9]   3GPP TS 25.224: "Physical layer procedures (TDD)".

[10]   3GPP TS 25.225: "Physical layer – Measurements (TDD)".

[11]   3GPP TS 25.302: "Services Provided by the Physical Layer".

[12]   3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".

[13]   3GPP TS 25.331: "Radio Resource Control (RRC); Protocol Specification".

[14]   ITU-T Recommendation X.691 (12/97) "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".

4.6.2.4   UE identity mapping

The UE identity is the HS-DSCH Radio Network Identifier (H-RNTI) defined in [13]. This is mapped such that $x_{ue,1}$ corresponds to the MSB and $x_{ue,16}$ to the LSB, cf. [14].

4.6.4   CRC attachment for HS-SCCH

From the sequence of bits $x_{1,1}$, $x_{1,2}$, ..., $x_{1,8}$, $x_{2,1}$, $x_{2,2}$, ..., $x_{2,13}$ a 16 bits CRC is calculated according to Section 4.2.1.1. This gives a sequence of bits c_1, c_2, ..., c_{16}. This sequence of bits is then masked with the UE ~~ID~~ identity $x_{ue,1}$, $x_{ue,2}$, ..., $x_{ue,16}$~~, where $x_{ue,1}$ is the~~ MSB ~~and $x_{ue,16}$ is the~~ LSB ~~of the UE ID,~~ and then appended to the sequence of bits $x_{2,1}$, $x_{2,2}$, ..., $x_{2,13}$ ~~The UE ID corresponds to the HS-DSCH Radio Network Identifier (H-RNTI) as defined in [13], expressed in unsigned binary form~~. The mask CRC bits correspond to the sequence of bits y_1, y_2, ..., y_{29}, where

$y_i = x_{2,i}$ $i=1,2,...,13$

$y_i = c_{i-13} + x_{ue,i-13} \bmod 2$ $i=14,15,...,29$

4.6.7   UE specific masking for HS-SCCH

The rate matched bits $r_{1,1}, r_{1,2}...r_{1,40}$ shall be masked in an UE specific way using the UE ~~ID~~ identity $x_{ue,1}, x_{ue,2}, ..., x_{ue,16}$, ~~where $x_{ue,1}$ is the MSB and $x_{ue,16}$ is the LSB of the UE ID~~, to produce the bits $s_{1,1}, s_{1,2}...s_{1,40}$. ~~The UE ID corresponds to the HS-DSCH Radio Network Identifier (H-RNTI) as defined in [13], expressed in unsigned binary form.~~

Intermediate code word bits b_i, i=1,2…,48, are defined by endcoding the UE ~~ID~~ identity bits using the rate ½ convolutional coding described in Section 4.2.3.1. Eight bits out of the resulting 48 convolutionally encoded bits are punctured using rate matching with the general method described in Section 4.2.7.5 where $X_i = 48$, $e_{ini}=1$, $e_{plus}=96$ and $e_{minus}=16$. That is, from the input sequence $b_1, b_2, ..., b_{48}$, the bits $b_1, b_7, b_{13}, b_{19}, b_{25}, b_{31}, b_{37}, b_{43}$ are punctured to obtain the 40 bit UE specific scrambling sequence $c_1, c_2...c_{40}$.

The mask output bits $s_{1,1}, s_{1,2}...s_{1,40}$ are calculated as follows:

$s_{1,k} = (r_{1,k} + c_k) \bmod 2$ for k = 1,2…40