

TSG RAN Meeting #27
Tokyo, Japan, 9 - 11 March 2005

RP-050049

Title CR (Rel-6 Category F) to TS25.214 for Reliable E-RGCH/E-HICH Detection
Source TSG RAN WG1
Agenda Item 9.6

RAN1 Tdoc	Spec	CR	Rev	Rel	Cat	Current Version	Subject	Work item	Remarks
R1-050198	25.214	364	1	Rel-6	F	6.4.0	Reliable E-RGCH/E-HICH Detection	EDCH-Phys	

CR-Form-v7.1

CHANGE REQUEST

⌘ **TS 25.214 CR 364** ⌘ rev **1** ⌘ Current version: **6.4.0** ⌘

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:	⌘ Reliable E-RGCH/E-HICH Detection		
Source:	⌘ RAN WG1		
Work item code:	⌘ EDCH-Phys	Date:	⌘ 06/02/2005
Category:	⌘ F	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: Ph2 (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) Rel-7 (Release 7)

Reason for change:	⌘ The L1 in the UE shall only deliver reliable ACK/NACK and Relative Grant information to the higher layers for further processing there. The L1 combining of ACK/NACK or Relative Grants from radio links of the same radio link set shall be soft.
Summary of change:	⌘ It is specified that L1 in the UE shall only deliver reliable ACK/NACK and Relative Grant information to the higher layers for further processing there. It is further specified that the L1 combining of ACK/NACK or Relative Grants from radio links of the same radio link set shall be soft.
Consequences if not approved:	⌘ It cannot be ensured that only reliable ACK/NACK and Relative Grant information is delivered to the higher layers, which will compromise correct system operation and can lead to severe interoperability problems. It is further unclear that how the ACK/NACK or Relative Grants from radio links of the same radio link set shall be combined.

Clauses affected:	⌘ 6B.1, 6B.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">Y</td> <td style="padding: 2px;">N</td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input checked="" type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;"><input type="checkbox"/></td> <td style="padding: 2px;"><input type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Other core specifications	⌘
	Y	N									
	<input type="checkbox"/>	<input checked="" type="checkbox"/>									
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<input type="checkbox"/>	<input type="checkbox"/>										
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.

6B E-DCH related procedures

The following physical layer parameters are signalled to the UE from higher layers:

- 1) E-HICH set to be monitored
- 2) E-RGCH set to be monitored

~~6B.1 ACK/NACK combining~~ 6B.1 ACK/NACK detection

The physical layer in the UE shall detect ACK or NACK within the E-HICH set that is monitored by the UE in the subframes where ACK/NACK is transmitted by the UTRAN and deliver the ACK/NACK to the higher layers as follows:

- When a UE is not in soft handover, an ACK shall be delivered to the higher layers if a reliable ACK is detected by the physical layer in the UE, else a NACK shall be delivered to the higher layers.
- When a UE is in soft handover, multiple ACK/NACKs may be received in an E-DCH TTI from different cells in the active set. In some cases, the UE has the knowledge that some of the transmitted ACK/NACKs are the same. This is the case when the radio links are in the same radio link set. For these cases, ACK/NACKs from the same radio link set shall be soft combined into one ACK/NACK information and delivered to higher layers. If a radio link set contains only one radio link, the detection shall be done as specified above for the case where the UE is not in soft handover. For each radio link set containing multiple radio links, an ACK shall be delivered to the higher layers if a reliable ACK is detected by the physical layer in the UE after soft combining, else a NACK shall be delivered to the higher layers.

~~6B.2 Relative Grants combining~~ 6B.2 Relative grants detection

The physical layer in the UE shall detect relative grants within the E-RGCH set that is monitored by the UE and deliver the relative grants to the higher layers as follows:

- When a UE is not in soft handover, an UP shall be delivered to the higher layers if a reliable UP is detected by the physical layer in the UE, else a DOWN shall be delivered to the higher layers if a reliable DOWN is detected by the UE, else a HOLD shall be delivered to the higher layers.
- When a UE is in soft handover, multiple ~~R~~relative ~~G~~grants may be received in an E-DCH TTI from different cells in the E-DCH active set. In some cases, the UE has the knowledge that some of the transmitted ~~R~~relative ~~G~~grants are the same. This is the case when the radio links are in the same E-DCH Radio Link Set (serving or non serving). For these cases, ~~R~~relative ~~G~~grants from the same E-DCH Radio Link Set (serving or non serving) shall be soft combined into one ~~R~~relative ~~G~~grant information and delivered to higher layers. If a radio link set contains only one radio link, the detection shall be done as specified above for the case where the UE is not in soft handover. For each E-DCH radio link set containing multiple radio links, an UP shall be delivered to the higher layers if a reliable UP is detected by the physical layer in the UE after soft combining, else a DOWN shall be delivered to the higher layers if a reliable DOWN is detected by the UE after soft combining, else a HOLD shall be delivered to the higher layers.