TSG RAN Meeting #28 **RP-050357**
Quebec, Canada, 1 - 3 June 2005

Title **Revised CRs for EDCH: 25.211CR203r2 and 25.212CR206r1**
Source **Nokia**
Agenda Item **8.6**

RAN1 Tdoc	Spec	CR	Rev	Rel	Cat	Current Version	Subject	Work item	Remarks
-	25.211	203	2	Rel-6	F	6.4.0	Correction of text on E-RGCH duration	EDCH-Phys	Revisions to RAN1 agreed CRs in RP-050252 aligning them to RAN2 decision to remove the concept of 'non-serving E-DCH radio link set'
-	25.212	206	1	Rel-6	F	6.4.0	E-HICH and E-RGCH serving/non-serving definition clarification	EDCH-Phys	

3GPP TSG-RAN WG Meeting #28
Quebec, Canada, 1st – 3rd June 2005

Tdoc ⌘RP-050357

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.211** **CR** **203** ⌘ **rev** **2** ⌘ 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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	Correction of text on E-RGCH duration
Source:	⌘	Nokia
Work item code:	⌘	EDCH-Phys
Date:	⌘	23/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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:
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 current text in section 5.3.2.4 and 7.11 defines the duration and timing of RG for serving/non-serving cells, while the intention is that the relation is defined in terms of cells from the serving/non-serving RLS. Revision 2 also removing the concept of non-serving E-DCH RLS as the concept was removed from the stage 2 specification.
Summary of change:	⌘	The RG duration and timing are defined in terms of cells from the serving/non-serving RLS.
Consequences if not approved:	⌘	Ambiguous wording in the specification of the RG length and timing.

Clauses affected:	⌘	5.3.2.4 and 7.11

Other specs affected: ⌘	Y	N		⌘
		X	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:

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5.3.2.4 E-DCH Relative Grant Channel

The E-DCH Relative Grant Channel (E-RGCH) is a fixed rate (SF=128) dedicated downlink physical channel carrying the uplink E-DCH relative grants. Figure 12A illustrates the structure of the E-RGCH. A relative grant is transmitted using 3, 12 or 15 consecutive slots and in each slot a sequence of 40 ternary values is transmitted. The 3 and 12 slot duration shall be used ~~to control~~on an E-RGCH transmitted to UEs for which the cell transmitting the E-RGCH is in the E-DCH serving ~~cell~~ radio link set and for which the E-DCH TTI is respectively 2 and 10 ms. The 15 slot duration shall be used ~~to control~~on an E-RGCH transmitted to UEs for which the cell transmitting the E-RGCH is not in the E-DCH serving ~~cell~~radio link set.

The sequence $b_{i,0}$, $b_{i,1}$, …, $b_{i,39}$ transmitted in slot i in Figure 12A is given by $b_{i,j}$ = a $C_{ss,40,m(i),j}$. In a serving E-DCH radio link set, the relative grant a is set to +1, 0, or -1 and in a radio link not belonging to the ~~non~~ serving E-DCH radio link set, the relative grant a is set to 0 or -1. The orthogonal signature sequences $C_{ss,40,\,m(i)}$ is given by Table 16A and the index m(i) in slot i is given by Table 16B. The E-RGCH signature sequence index l in Table 16B is given by higher layers.

In case STTD-based open loop transmit diversity is applied for E-RGCH, STTD encoding according to subclause 5.3.1.1.1 is applied to the sequence $b_{i,j}$.

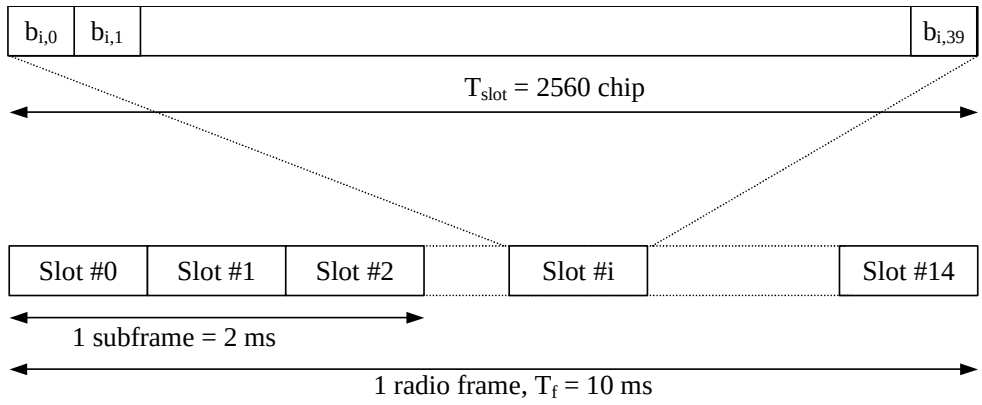

Figure 12A: E-RGCH and E-HICH structure

Table 16A: E-RGCH and E-HICH signature sequences

$C_{ss,40,0}$	-1	-1	-1	1	-1	1	-1	-1	1	1	-1	-1	1	-1	1	1	-1	1	1	-1	-1	-1	-1	-1	-1	-1	1	-1	1	-1	-1	1	1	1	1	1	-1	-1	-1
$C_{ss,40,1}$	-1	1	1	-1	-1	1	1	1	1	-1	1	-1	1	1	-1	-1	-1	-1	1	1	1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	1	1	-1	1	1	-1	-1
$C_{ss,40,2}$	-1	-1	-1	1	-1	1	1	1	1	-1	-1	-1	1	-1	-1	1	1	-1	-1	1	1	-1	1	1	1	-1	-1	1	1	1	-1	1	-1	1	-1	-1	-1	-1	-1
$C_{ss,40,3}$	1	-1	-1	-1	-1	-1	-1	1	1	1	-1	1	-1	1	-1	1	-1	-1	1	1	-1	1	-1	-1	1	1	-1	1	-1	-1	1	1	-1	1	1	-1	-1	-1	-1
$C_{ss,40,4}$	1	1	1	-1	-1	1	-1	1	1	-1	1	1	1	-1	1	1	1	1	1	1	-1	1	1	1	-1	-1	-1	1	1	-1	1	-1	1	1	1	1	-1	1	-1
$C_{ss,40,5}$	-1	1	-1	-1	1	1	1	-1	1	1	-1	1	1	1	-1	1	1	1	-1	-1	1	-1	-1	1	-1	1	-1	1	-1	-1	1	-1	1	1	-1	-1	-1	1	1	-1
$C_{ss,40,6}$	1	1	-1	-1	-1	1	1	-1	1	1	-1	-1	1	-1	-1	-1	-1	1	1	-1	1	1	1	-1	1	-1	1	-1	1	-1	-1	1	1	1	1	-1	-1	1	-1	1
$C_{ss,40,7}$	-1	1	-1	1	1	1	-1	-1	1	-1	-1	1	1	1	1	-1	-1	-1	1	-1	-1	-1	1	-1	1	1	-1	-1	1	1	1	1	-1	1	1	1	-1	1	1	-1
$C_{ss,40,8}$	1	1	-1	1	1	-1	1	1	1	1	-1	-1	-1	-1	1	-1	1	-1	1	1	1	1	-1	1	-1	-1	-1	-1	-1	1	-1	-1	-1	1	1	1	-1	1	1	-1
$C_{ss,40,9}$	-1	1	-1	-1	-1	-1	1	-1	1	-1	-1	1	-1	-1	1	1	1	-1	1	-1	1	-1	-1	1	1	-1	1	1	-1	-1	1	1	-1	1	1	1	1	1	-1	1
$C_{ss,40,10}$	-1	1	1	-1	1	1	-1	1	1	1	1	-1	1	-1	1	1	-1	-1	-1	1	-1	-1	-1	-1	1	-1	1	1	-1	-1	-1	1	-1	1	-1	1	-1	1	1	1
$C_{ss,40,11}$	-1	1	-1	-1	-1	-1	-1	1	1	1	-1	-1	-1	1	1	-1	1	1	-1	1	-1	-1	1	1	1	1	-1	-1	1	-1	-1	1	1	1	-1	1	1	1	-1	-1
$C_{ss,40,12}$	-1	-1	-1	-1	1	-1	1	1	1	-1	-1	-1	-1	1	1	1	-1	1	1	1	1	-1	1	-1	-1	1	1	1	1	-1	-1	-1	1	1	1	1	-1	-1	1	1
$C_{ss,40,13}$	1	1	1	1	-1	-1	1	-1	1	-1	1	-1	-1	1	1	1	-1	1	-1	-1	1	1	-1	-1	1	1	-1	1	-1	1	-1	1	1	1	-1	1	-1	1	-1	-1
$C_{ss,40,14}$	-1	1	1	1	-1	-1	-1	-1	1	1	1	-1	-1	1	-1	1	1	-1	1	-1	-1	-1	1	1	-1	1	1	1	1	-1	-1	-1	1	1	-1	-1	1	-1	1	1
$C_{ss,40,15}$	-1	-1	1	1	-1	1	1	1	1	1	1	1	1	1	1	-1	1	1	1	1	1	-1	-1	1	1	1	1	-1	-1	1	1	1	1	1	1	-1	-1	-1	1	1
$C_{ss,40,16}$	1	-1	-1	-1	-1	1	-1	-1	1	-1	-1	-1	1	1	1	-1	1	-1	-1	-1	-1	1	-1	1	-1	1	1	-1	-1	-1	-1	-1	-1	1	-1	1	-1	-1	-1	1
$C_{ss,40,17}$	1	-1	1	-1	1	1	1	-1	1	1	1	-1	1	1	1	1	1	-1	1	-1	1	1	1	1	1	1	-1	1	1	-1	-1	1	-1	1	1	1	1	-1	1	-1
$C_{ss,40,18}$	1	1	-1	1	-1	1	1	1	1	1	-1	1	1	1	1	1	-1	-1	-1	1	1	1	1	-1	-1	1	1	1	1	1	-1	-1	1	-1	1	1	1	-1	1	1
$C_{ss,40,19}$	1	1	-1	1	1	1	-1	1	1	-1	-1	-1	1	1	-1	1	1	1	1	1	-1	1	-1	1	1	1	1	1	-1	1	-1	1	1	1	1	-1	1	1	1	1
$C_{ss,40,20}$	1	1	1	-1	1	1	-1	1	1	1	-1	1	-1	-1	-1	1	-1	-1	1	-1	1	-1	-1	1	1	1	1	-1	1	1	-1	-1	1	1	-1	1	-1	-1	-1	-1
$C_{ss,40,21}$	-1	1	1	-1	-1	-1	-1	1	1	1	-1	-1	1	-1	-1	1	1	-1	-1	-1	1	1	1	-1	-1	1	-1	-1	-1	1	1	1	1	1	1	1	-1	1	1	
$C_{ss,40,22}$	-1	-1	-1	1	-1	-1	-1	1	1	1	1	-1	1	1	-1	-1	-1	-1	1	-1	1	1	-1	1	1	-1	-1	1	1	-1	1	-1	1	-1	1	-1	1	1	1	
$C_{ss,40,23}$	1	-1	-1	-1	-1	1	1	1	1	-1	1	1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	1	-1	1	1	-1	1	-1	1	-1	-1	1	1	1	1	-1	1	1	
$C_{ss,40,24}$	-1	-1	-1	1	1	1	-1	-1	1	-1	1	-1	-1	-1	-1	1	1	-1	1	1	1	1	1	-1	1	1	1	-1	-1	-1	1	-1	1	1	-1	1	1	1	-1	-1
$C_{ss,40,25}$	-1	1	-1	-1	1	-1	-1	-1	1	-1	1	1	1	-1	-1	-1	-1	1	1	1	1	1	1	1	-1	1	-1	1	-1	1	-1	1	-1	1	-1	-1	-1	1	1	
$C_{ss,40,26}$	-1	-1	1	1	1	1	1	1	1	1	-1	1	-1	-1	1	-1	-1	-1	1	-1	-1	1	1	1	-1	1	-1	1	-1	-1	-1	1	1	1	-1	-1	1	1	-1	1
$C_{ss,40,27}$	1	-1	1	-1	-1	1	-1	1	1	-1	-1	-1	-1	1	-1	-1	-1	1	1	-1	1	-1	1	1	-1	-1	-1	1	1	-1	1	1	1	-1	1	-1	1	1	1	-1
$C_{ss,40,28}$	1	1	-1	1	1	1	-1	1	1	-1	1	-1	-1	1	1	1	-1	-1	-1	-1	1	-1	1	1	-1	-1	-1	-1	-1	-1	1	1	1	1	1	-1	-1	-1	-1	1
$C_{ss,40,29}$	-1	1	-1	-1	-1	1	-1	-1	1	1	1	1	-1	1	1	-1	-1	-1	-1	1	1	1	1	1	1	-1	1	1	-1	1	-1	-1	1	1	1	-1	1	-1	1	-1
$C_{ss,40,30}$	-1	1	1	-1	1	-1	1	1	1	-1	-1	-1	1	1	1	-1	1	-1	1	-1	-1	1	1	-1	1	-1	1	1	-1	1	1	-1	1	1	-1	-1	-1	-1	1	-1
$C_{ss,40,31}$	-1	1	-1	-1	-1	1	1	1	1	-1	1	-1	-1	-1	1	1	-1	1	1	-1	-1	1	-1	1	1	1	-1	-1	1	1	1	-1	-1	1	-1	-1	1	-1	1	1
$C_{ss,40,32}$	1	1	1	1	-1	-1	1	-1	1	-1	-1	1	1	1	-1	1	-1	-1	1	1	-1	-1	1	1	1	-1	-1	-1	-1	-1	-1	1	1	-1	1	1	-1	1	1	
$C_{ss,40,33}$	-1	-1	-1	-1	1	-1	1	1	1	-1	1	1	1	1	-1	1	-1	-1	-1	-1	-1	1	-1	1	-1	-1	1	-1	1	1	-1	1	1	1	1	1	1	-1	-1	
$C_{ss,40,34}$	1	-1	-1	-1	1	-1	-1	1	1	1	1	1	1	1	1	1	1	1	1	-1	1	-1	1	-1	1	-1	-1	-1	-1	1	-1	-1	-1	1	-1	-1	1	1	-1	1
$C_{ss,40,35}$	-1	-1	1	1	-1	-1	-1	1	1	-1	-1	1	1	-1	1	1	-1	1	-1	-1	1	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	1	1	-1	-1	1	1	-1
$C_{ss,40,36}$	-1	1	1	1	1	1	-1	1	1	-1	-1	1	-1	1	-1	-1	1	1	-1	-1	1	1	-1	-1	1	1	-1	-1	1	1	-1	-1	-1	-1	1	1	1	1	-1	1
$C_{ss,40,37}$	1	-1	1	-1	1	-1	-1	-1	1	-1	-1	-1	1	-1	1	-1	-1	-1	-1	1	1	-1	-1	1	1	1	-1	1	1	1	1	-1	1	1	1	-1	1	1	-1	1
$C_{ss,40,38}$	-1	-1	1	-1	1	1	1	-1	1	1	-1	-1	-1	1	-1	1	-1	1	-1	1	-1	1	1	1	1	-1	-1	-1	-1	1	1	-1	-1	1	1	1	-1	1	-1	1
$C_{ss,40,39}$	-1	-1	1	-1	-1	1	-1	-1	1	-1	-1	1	-1	1	1	1	1	-1	1	1	1	1	-1	-1	-1	-1	-1	-1	1	1	-1	1	1	1	-1	-1	-1	1	1	1

The bits are transmitted in order from left to right, i.e., column 2 corresponds to index j=0 and the rightmost column corresponds to index j=39.

Table 16B: E-HICH and E-RGCH signature hopping pattern

Sequence index *l*	Row index *m(i)* for slot *i*		
	$i \bmod 3 = 0$	$i \bmod 3 = 1$	$i \bmod 3 = 2$
1	1	18	18
2	2	8	33
3	3	16	32
4	4	13	10
5	5	3	25
6	6	12	16
7	7	6	1
8	8	19	39
9	9	34	14
10	10	4	5
11	11	17	34
12	12	29	30

13	13	11	23
14	14	24	22
15	15	28	21
16	16	35	19
17	17	21	36
18	18	37	2
19	19	23	11
20	20	39	9
21	21	22	3
22	22	9	15
23	23	36	20
24	24	0	26
25	25	5	24
26	26	7	8
27	27	27	17
28	28	32	29
29	29	15	38
30	30	30	12
31	31	26	7
32	32	20	37
33	33	1	35
34	34	14	0
35	35	33	31
36	36	25	28
37	37	10	27
38	38	31	4
39	39	38	6

----------End of change 5.3.2.4----------

----------Start of change 7.11----------

7.11 DL E-RGCH/P-CCPCH/DPCH timing relation

The timing of the DL E-RGCH relative to the P-CCPCH is illustrated in figure 38.

When transmitted to a UE for which the cell transmitting the E-RGCH is in the E-DCH serving ~~cell~~ radio link set, the E-RGCH frame offset shall be as follows:

- if the E-DCH TTI is 10 ms, the E-RGCH frame offset relative to P-CCPCH shall be $\tau_{\text{E-RGCH,n}}$ chips with

$$\tau_{E-RGCH,n} = 5120 + 7680 \times \left\lfloor \frac{(\tau_{DPCH,n}/256) - 70}{30} \right\rfloor$$

- if the E-DCH TTI is 2 ms the E-RGCH frame offset relative to P-CCPCH shall be $\tau_{\text{E-RGCH,n}}$ chips with

$$\tau_{E-RGCH,n} = 5120 + 7680 \times \left\lfloor \frac{(\tau_{DPCH,n}/256) + 50}{30} \right\rfloor$$

When transmitted to a UE for which the cell transmitting the E-RGCH is not in the E-DCH serving ~~cell~~ radio link set, the E-RGCH frame offset relative to P-CCPCH shall be $\tau_{\text{E-RGCH}} = 5120$ chips.

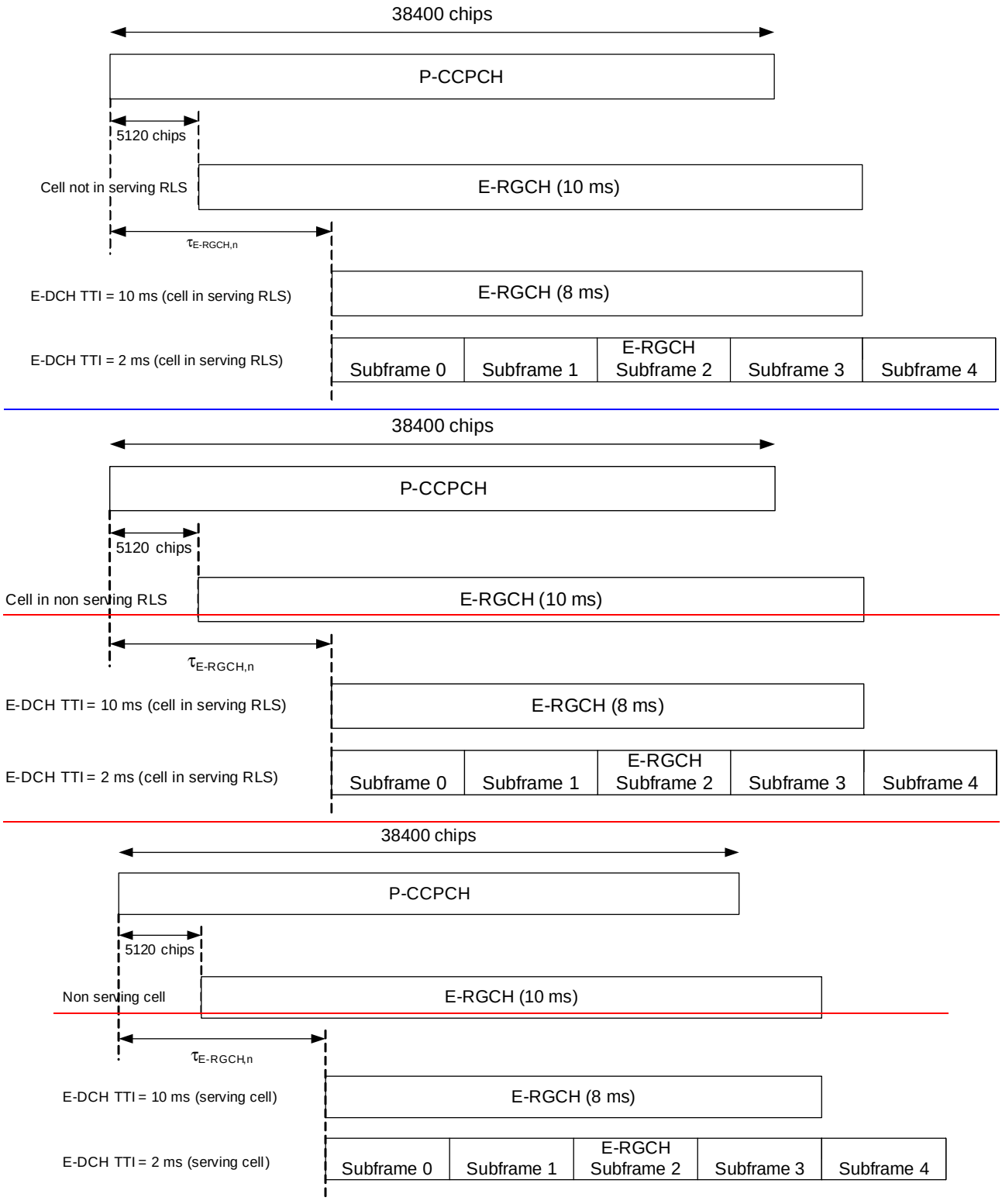

Figure 38: E-RGCH timing

3GPP TSG RAN Meeting #28 **RP-050357**
Quebec, Canada, 1st – 3rd June, 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.212** **CR** **206** ⌘ **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 [X] Radio Access Network [X] Core Network [ ]

Title:	⌘	E-HICH and E-RGCH serving/non-serving definition clarification
Source:	⌘	Nokia
Work item code:	⌘	EDCH-Phys
Date:	⌘	25/05/2005
Category:	⌘	**F**
Release:	⌘	Rel-6

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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 definition of serving/non-serving affecting the mappings of E-HICH and E-RGCH are undefined Revision 1 removing the non-serving E-DCH radio link set concept as it was removed from the Stage 2 description
Summary of change:	⌘	The serving/non serving for E-HICH means RLSs containing/not containing the serving E-DCH cell. For E-RGCH they mean serving/non-serving E-DCH RLS. Revision 1 not referring to non-serving E-DCH RLS for the E-RGCH mapping.
Consequences if not approved:	⌘	Ambiguously defined E-HICH and E-RGCH mappings in the specifications.

Clauses affected:	⌘	4.11.2 and 4.12.2

Other specs Affected: ⌘	Y	N		⌘
		X	Other core specifications	
			Test specifications	
			O&M Specifications	

Other comments: ⌘

How to create CRs using this form:
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4.11 Mapping for E-RGCH Relative Grant

4.11.1 Overview

The relative grant is transmitted on the E-RGCH as described in [2].

4.11.2 Relative Grant mapping

The relative grant (RG) command is mapped to the relative grant value as described in the table below.

Table 17: Mapping of RG value

Command	RG Value (serving E-DCH RLS)	RG Value (other radio links ~~non serving E-DCH RLS~~)
UP	+1	not allowed
HOLD	0	0
DOWN	-1	-1

4.12 Mapping for E-HICH ACK/NACK

4.12.1 Overview

The ACK/NACK is transmitted on the E-HICH as described in [2].

4.12.2 ACK/NACK mapping

The ACK/NACK command is mapped to the HARQ acknowledgement indicator as described in the table below.

Table 18: Mapping of HARQ Acknowledgement

Command	HARQ acknowledgement indicator
ACK	+1
NACK (RLSs not containing the serving E-DCH cell ~~non serving~~)	0
NACK (RLS containing the serving E-DCH cell ~~serving~~)	-1