TSG-RAN Working Group 1 meeting #9 Dresden, Germany November 30 – December 3, 1999

## TSGR1#9(99)j61

Agenda item:	
Source:	Ericsson
Title:	CR 25.211-011r1: Sliding paging indicators
Document for:	Decision

Document TSGR1#9(99)i77, explains the method to introduce sliding paging indicators, and contains a CR, TS 25.214 CR 011. It was commented that the CR could be improved by adding an extra pair of brackets in the formula, to make sure that the precedence of multiplication and modulo operation was clear. This contribution contains the updated CR, revision 1.

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e.g. for 3GPP use the format TP-99xxx or for SMG, use the format P-99-xxx

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		25.211	CR	011r1	1	Current Versio	on: <mark>3.0.0</mark>	
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Source:	Ericsson					Date:	1999-11-25	
Subject:	Sliding pagi	ng indicators						
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<u>Other</u> comments:								

The Page Indicator Channel (PICH) is a fixed rate (SF=256) physical channel used to carry the Page Indicators (PI). The PICH is always associated with an S-CCPCH to which a PCH transport channel is mapped.

Figure 22 illustrates the frame structure of the PICH. One PICH frame of length 10 ms consists 300 bits ( $\underline{b}_0, \underline{b}_1, \dots, \underline{b}_{299}$ ). Of these, 288 bits ( $\underline{b}_0, \underline{b}_1, \dots, \underline{b}_{287}$ ) are used to carry Page Indicators. The remaining 12 bits ( $\underline{b}_{288}, \underline{b}_{289}, \dots, \underline{b}_{299}$ ) are undefinednot used.



One radio frame (10 ms)

## Figure 22: Structure of Page Indicator Channel (PICH)

N Page Indicators  $\{PI_0, ..., PI_{N-1}\}$  are transmitted in each PICH frame, where N=18, 36, 72, or 144.

The PI calculated by higher layers for use for a certain UE, is mapped to the paging indicator  $PI_p$ , where *p* is computed as a function of the PI computed by higher layers, the SFN of the P-CCPCH radio frame during which the start of the PICH radio frame occurs, and the number of paging indicators per frame (N):

$$p = \left(PI + \left\lfloor \left( \left(18 \times \left(SFN + \left\lfloor SFN / 8 \right\rfloor + \left\lfloor SFN / 64 \right\rfloor + \left\lfloor SFN / 512 \right\rfloor \right) \right) \mod 144 \right) \times \frac{N}{144} \right\rfloor \right) \mod N_{\underline{s}}$$

The mapping from  $\{PI_0, ..., PI_{N-1}\}$  to the PICH bits  $\{b_0, ..., b_{287}\}$  are according to table 21.

Table 21:	Mapping of	<b>Page Indicators</b>	(PI) to	o PICH bits
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Number of PI per frame (N)	Pl <sub>ip</sub> = 1	Pl <sub>ip</sub> = 0
N=18	$\{b_{16ip},, b_{16ip+15}\} = \{1, 1,, 1\}$	$\{b_{16ip}, \ldots, b_{16ip+15}\} = \{0, 0, \ldots, 0\}$
N=36	$\{b_{8ip}, \ldots, b_{8ip+7}\} = \{1, 1, \ldots, 1\}$	$\{b_{8ip}, \dots, b_{8ip+7}\} = \{0, 0, \dots, 0\}$
N=72	$\{b_{4ip}, \ldots, b_{4ip+3}\} = \{1, 1, \ldots, 1\}$	$\{b_{4i\underline{p}}, \dots, b_{4i\underline{p}+3}\} = \{0, 0, \dots, 0\}$
N=144	$\{b_{2ip}, b_{2ip+1}\} = \{1, 1\}$	$\{b_{2ip}, b_{2ip+1}\} = \{0, 0\}$

If a Paging Indicator in a certain frame is set to "1" it is an indication that UEs associated with this Page Indicator should read the corresponding frame of the associated S-CCPCH.