

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.

5.3.3.7 Page Indication Channel (PICH)

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 (b_0, b_1, \dots, b_{299}). Of these, 288 bits (b_0, b_1, \dots, b_{287}) are used to carry Page Indicators. The remaining 12 bits ($b_{288}, b_{289}, \dots, b_{299}$) are undefined ~~not used~~.

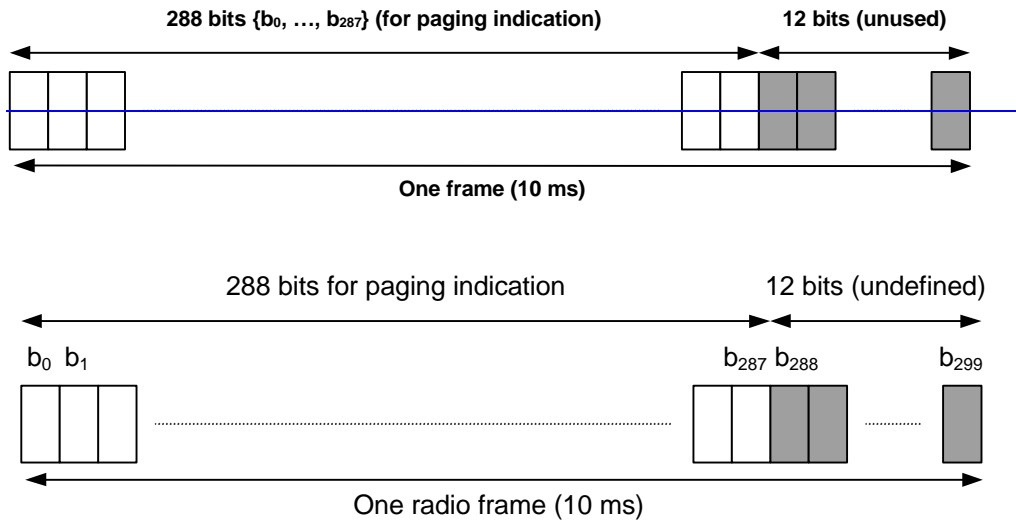


Figure 22: Structure of Page Indicator Channel (PICH)

N Page Indicators {PI₀, ..., 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):

$$p = \left(PI + \left[\left((18 \times (SFN + \lfloor SFN / 8 \rfloor) + \lfloor SFN / 64 \rfloor + \lfloor SFN / 512 \rfloor) \right) \bmod 144 \right] \times \frac{N}{144} \right) \bmod N$$

The mapping from {PI₀, ..., PI_{N-1}} to the PICH bits {b₀, ..., b₂₈₇} are according to table 21.

Table 21: Mapping of Page Indicators (PI) to PICH bits

Number of PI per frame (N)	PI _{ip} = 1	PI _{ip} = 0
N=18	{b _{16ip} , ..., b _{16ip+15} } = {1, 1, ..., 1}	{b _{16ip} , ..., b _{16ip+15} } = {0, 0, ..., 0}
N=36	{b _{8ip} , ..., b _{8ip+7} } = {1, 1, ..., 1}	{b _{8ip} , ..., b _{8ip+7} } = {0, 0, ..., 0}
N=72	{b _{4ip} , ..., b _{4ip+3} } = {1, 1, ..., 1}	{b _{4ip} , ..., b _{4ip+3} } = {0, 0, ..., 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.