

San Diego, USA, Feb 29- Mar 3, 2000

Agenda item:

Source: Philips
Title: Clarification of DCH initialisation
Document for: Decision

Introduction

According to current RAN2 specifications (TS 25.331) Activation Time is an optional Information Element. The definition of timing for DCH initialisation in 25.211 should be consistent with this situation. Furthermore, the parameter N_{offset2} does not currently exist in RAN2 specifications. This parameter was introduced in the Layer 1 specifications to allow fast initialisation of DCH for packet transmission and some flexibility for the operator where this feature was not required. In the first case the possibility of using a value for N_{offset2} of zero is desirable to minimise delay. It would also be necessary to signal an activation time. If there is no activation time indicated, the uplink transmission would start after detection of the downlink and under the control of higher layers in the UE. In this case, the requirement that N_{offset2} should be an integer number of frames is a constraint on possible starting times.

Therefore, since it is currently not possible to signal a value, it is proposed here that N_{offset2} should take a value zero if an activation time is specified for the uplink DPCCH. This allows fast initialisation to be configured.

Otherwise the uplink starting time is determined by higher layers in the UE, in accordance with the synchronisation procedure in TS25.214 section 4.3.2, and subject to the constraint that N_{offset2} is an integer.

The attached CR implements the changes discussed above.

Note that the current CR still applies in the case that changes to 4.3.2 proposed by Ericsson are adopted.

If N_{offset2} were to be introduced as a parameter in RAN2 specifications then it would probably be optional, in which case the default could be zero. In any case only minor changes would be needed in 25.211.

CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.211 CR 041

Current Version: **3.1.0**

GSM (AA.BB) or 3G (AA.BBB) specification number ↑

↑ CR number as allocated by MCC support team

For submission to: **TSG-RAN #7**
list expected approval meeting # here ↑

for approval
for information

strategic
non-strategic (for SMG use only)

Form: CR cover sheet, version 2 for 3GPP and SMG The latest version of this form is available from: <ftp://ftp.3gpp.org/Information/CR-Form-v2.doc>

Proposed change affects:

(at least one should be marked with an X)

(U)SIM ME UTRAN / Radio Core Network

Source:

Philips

Date: 2000-02-24

Subject:

Clarification of DCH initialisation

Work item:

Category:

(only one category shall be marked with an X)

F Correction
A Corresponds to a correction in an earlier release
B Addition of feature
C Functional modification of feature
D Editorial modification

Release:

Phase 2
Release 96
Release 97
Release 98
Release 99
Release 00

Reason for change:

DCH initialisation should be consistent with defined higher layer parameters and Layer 1 synchronisation procedure in TS 25.214 4.3.2

Clauses affected:

7.7

Other specs affected:

Other 3G core specifications → List of CRs:
Other GSM core specifications → List of CRs:
MS test specifications → List of CRs:
BSS test specifications → List of CRs:
O&M specifications → List of CRs:

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

7.7 Timing relations for initialisation of channels

Figure 27 shows the timing relationships between the physical channels involved in the initialisation of a DCH.

The maximum time permitted for the UE to decode the relevant FACH frame before the first frame of the DPCCH is received shall be $T_{B-\min} = 38400$ chips (i.e.15 slots).

The downlink DPCCH shall commence at a time T_B after the end of the relevant FACH frame, where $T_B \geq T_{B-\min}$ according to the following equation:

$$T_B = (T_n - T_k) \times 256 - N_{pcp} \times 2560 + N_{offset_1} \times 38400 \text{ chips, where:}$$

N_{pcp} is a higher layer parameter set by the network, and represents the length (in slots) of the power control preamble (see [5], section 5.1.2.4).

N_{offset_1} is a parameter set by higher layers and derived from the activation time -if one is specified-set by higher layers. In order that $T_B \geq T_{B-\min}$, N_{offset_1} shall be an integer number of frames such that:

$$N_{offset_1} \geq \begin{cases} 1 & \text{when } T_n - T_k \geq \frac{T_{B-\min}}{256} + 10N_{pcp} - 150 \\ 2 & \text{when } \frac{T_{B-\min}}{256} + 10N_{pcp} - 300 \leq T_n - T_k < \frac{T_{B-\min}}{256} + 10N_{pcp} - 150 \\ 3 & \text{when } T_n - T_k < \frac{T_{B-\min}}{256} + 10N_{pcp} - 300 \end{cases}$$

T_n and T_k are parameters defining the timing of the frame boundaries on the DL DPCCH and S-CCPCH respectively (see section 7.1). These parameters are provided by higher layers.

The uplink DPCCH shall commence at a time T_C after the end of the relevant FACH frame, where

$T_C = T_B + T_0 + N_{offset_2} \times 38400$ chips, where T_0 is as in section 7.6.3. If an activation time for the uplink DPCCH is specified, then N_{offset_2} shall be set to zero. Otherwise the starting time of the uplink DPCCH shall be determined by higher layers according to the procedure in TS 25.214 sub clause 4.3.2, subject to the constraint that ~~and~~ N_{offset_2} is a UE-specific higher layer parameter which shall be an integer number of frames greater than or equal to zero.

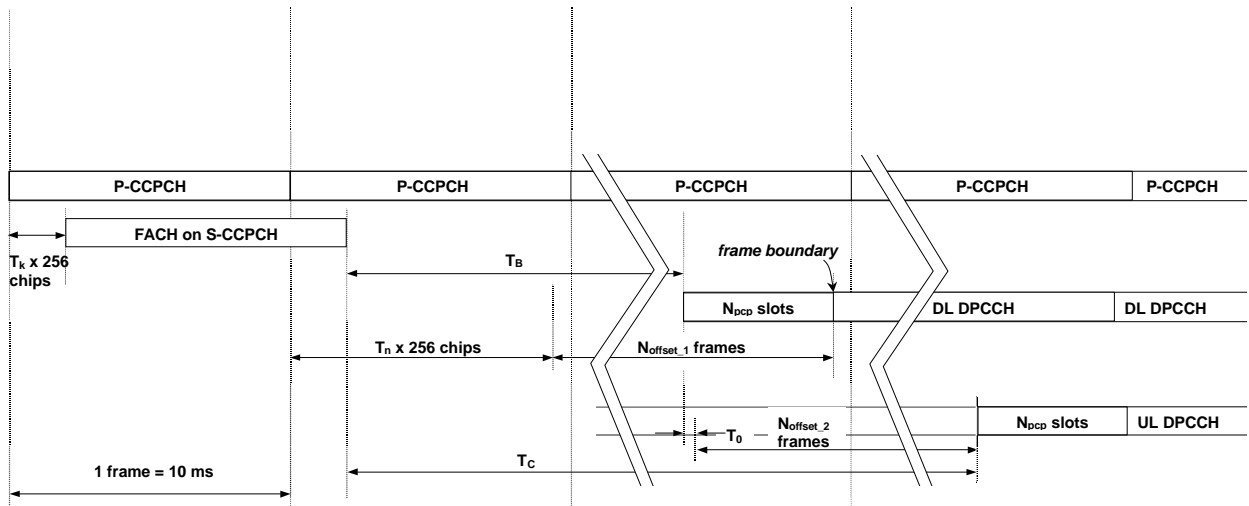


Figure 27: Timing for initialisation of DCH.

The data channels shall not commence before the end of the power control preamble.