

January 18 – 21, 2000, Beijing, China

Agenda item:

Source: Philips

Title: Modification to description of synchronisation procedure

Document for: Decision

Introduction

Paragraph (c) of the synchronisation procedure in section 4.3.2 of 25.214 relates to issues which are not directly relevant to the process of synchronisation, and are entirely covered elsewhere in the specifications:

- Details of frame timing and the commencement of channels is covered by Section 7.7 in 25.211;
- The non-transmission of physical channels when there is no data is covered by Section 4.2.12.1 in 25.212;
- Power Control is covered by Sections 5.1.2 and 5.2.1 in 25.214.

The attached CR25214-051 therefore removes these details which complicate the synchronisation procedure, and a cross-reference is added to the timing section 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.

25.214 CR 051

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: 2000-01-11

Subject:

Synchronisation procedure

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:

Removal of duplicated information.

Clauses affected:

4.3.2 "No existing uplink dedicated channel"

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.

4 Synchronisation procedures

4.1 Cell search

During the cell search, the UE searches for a cell and determines the downlink scrambling code and common channel frame synchronisation of that cell. How cell search is typically done is described in Annex C.

4.2 Common physical channel synchronisation

The radio frame timing of all common physical channels can be determined after cell search. The P-CCPCH radio frame timing is found during cell search and the radio frame timing of all common physical channel are related to that timing as described in 25.211.

4.3 DPCCH/DPDCH synchronisation

4.3.1 General

The synchronisation of the dedicated physical channels can be divided into two cases:

- when a downlink dedicated physical channel and uplink dedicated physical channel shall be set up at the same time;
- or when a downlink dedicated physical channel shall be set up and there already exist an uplink dedicated physical channel.

The two cases are described in subclauses 4.3.2 and 4.3.3 respectively.

4.3.2 No existing uplink dedicated channel

The assumption for this case is that a DPCCH/DPDCH pair shall be set up in both uplink and downlink, and that there exist no uplink DPCCH/DPDCH already. This corresponds to the case when a dedicated physical channel is initially set up on a frequency.

The synchronization establishment procedures of the dedicated physical channel are described below. The synchronization establishment flow is shown in figure 1.

- a) UTRAN starts the transmission of downlink DPCCH/DPDCHs. The DPDCH is transmitted only when there is data to be transmitted to the UE.
- b) The UE establishes downlink chip synchronization and frame synchronization based on the CPICH timing and timing offset information notified from UTRAN. Frame synchronization can be confirmed using the Frame Synchronization Word. Successful frame synchronization is confirmed and reported to the higher layers when S_R successive frames have been confirmed to be frame synchronized. Otherwise, frame synchronization failure is reported to the higher layers.
- c) ~~The UE starts the transmission of the uplink DPCCH/DPDCHs at a frame timing exactly T_0 chips after the frame timing of the received downlink DPCCH/DPDCH. The DPDCH is transmitted only when there is data to be transmitted. The UE immediately starts inner loop power control as described in sections 5.1.2 and 5.2.1, i.e. the transmission power of the uplink DPCCH/DPDCH follows the TPC commands generated by UTRAN, and the UE performs SIR estimation to generate TPC commands transmitted to UTRAN. The timing of the start of the uplink channels is as defined in subclause 7.7 in [1].~~
- d) UTRAN establishes uplink channel chip synchronization and frame synchronization. Frame synchronization can be confirmed using the Frame Synchronization Word. Successful frame synchronization is confirmed and reported to the higher layers when S_R successive frames have been confirmed to be frame synchronized. Otherwise, frame synchronization failure is reported to the higher layers.