CHANGE REQUEST

CR-Form-v3

✎ **25.221**   CR **042**   ✎ rev **2** ✎   Current version: **3.5.0** ✎

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ✎ symbols.*

Proposed change affects: ✎   (U)SIM ☐   ME/UE ☐   Radio Access Network **X**   Core Network ☐

Title: ✎	Introduction of the Physical Node B Synchronization Channel
Source: ✎	Siemens
Work item code: ✎	RANimp-NBsync ***Date:*** ✎ 10.02.2001
Category: ✎ **B**	***Release:*** ✎ REL-4

Use one of the following categories:
F *(essential 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:
2   *(GSM Phase 2)*
R96   *(Release 1996)*
R97   *(Release 1997)*
R98   *(Release 1998)*
R99   *(Release 1999)*
REL-4   *(Release 4)*
REL-5   *(Release 5)*

Reason for change: ✎	There is no PCH where the Node B sync burst can be transmitted
Summary of change: ✎	Introduction of the PNBSCH in order to support NB sync operation over the air
Consequences if not approved: ✎	Work item Node B synchronisation is not feasible

|	
Clauses affected: ✎	6, New section 5.3.8
Other specs affected: ✎	**X** Other core specifications ✎ 25.223, 25.302, 25.331 ☐ 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/3G_Specs/CRs.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ✎ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

5.3.8 The physical node B synchronisation channel (PNBSCH)

In case cell sync bursts are used for Node B synchronisation the PNBSCH shall be used for the transmission of the cell sync burst [8]. The PNBSCH shall be mapped on the same timeslot as the PRACH acc. to a higher layer schedule. The cell sync burst shall be transmitted at the beginning of a timeslot. In case of Node B synchronisation via the air interface the transmission of a RACH may be prohibited on higher layer command in specified frames and timeslots.

Cell Sync Burst 2304 chips	GP 256 chips

$$2560*T_c$$
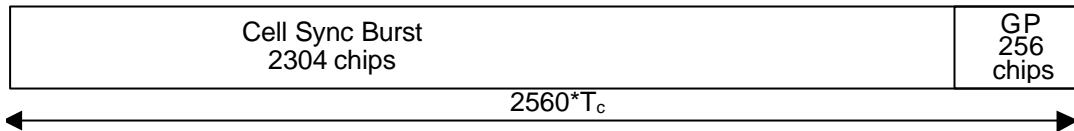
6 Mapping of transport channels to physical channels

This clause describes the way in which transport channels are mapped onto physical resources, see figure 19.

Transport Channels | **Physical Channels**
DCH ———————— Dedicated Physical Channel (DPCH)

BCH ———————— Primary Common Control Physical Channel (P-CCPCH)

FACH ——————— Secondary Common Control Physical Channel (S-CCPCH)
PCH ——

RACH ——————— Physical Random Access Channel (PRACH)

USCH ——————— Physical Uplink Shared Channel (PUSCH)

DSCH ——————— Physical Downlink Shared Channel (PDSCH)

Paging Indicator Channel (PICH)

Synchronisation Channel (SCH)

Physical Node B Synchronisation Channel (PNBSCH)

Figure 19: Transport channel to physical channel mapping

6.1 Dedicated Transport Channels

A dedicated transport channel is mapped onto one or more physical channels. An interleaving period is associated with each allocation. The frame is subdivided into slots that are available for uplink and downlink information transfer. The mapping of transport blocks on physical channels is described in TS 25.222 ("multiplexing and channel coding").
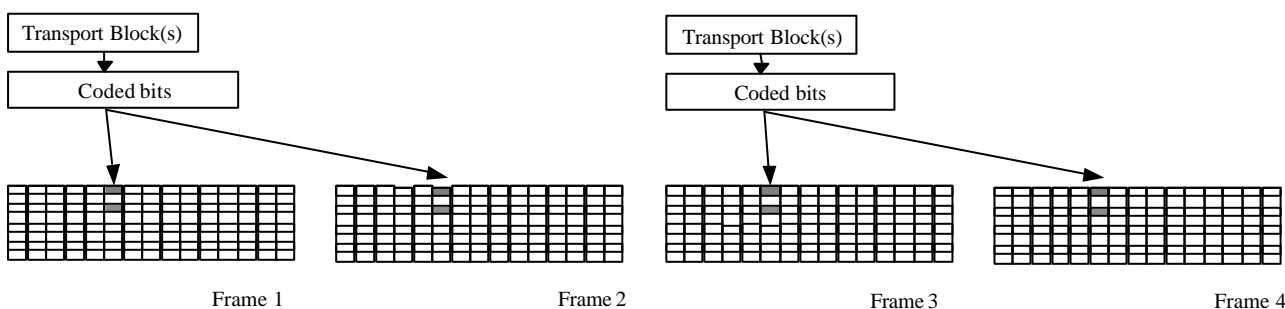

Figure 20: Mapping of Transport Blocks onto the physical bearer

For NRT packet data services, shared channels (USCH and DSCH) can be used to allow efficient allocations for a short period of time.