CR-Form-v3

CHANGE REQUEST

⌘	**25.211** CR **095**	⌘ rev **3** ⌘ 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 **X** Radio Access Network **X** Core Network ☐

Title: ⌘	Phase Reference for Secondary CCPCH carrying FACH	
Source: ⌘	Nokia, Ericsson, Panasonic	
Work item code: ⌘		***Date:*** ⌘ 15.03.2001
Category: ⌘ **F**		***Release:*** ⌘ Rel-99

	Use one of the following categories:	Use one of the following releases:
	F (essential correction)	2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)
	B (Addition of feature),	R97 (Release 1997)
	C (Functional modification of feature)	R98 (Release 1998)
	D (Editorial modification)	R99 (Release 1999)
	Detailed explanations of the above categories can	REL-4 (Release 4)
	be found in 3GPP TR 21.900.	REL-5 (Release 5)

Reason for change: ⌘	What type of the combination can be used as phase reference for each channel is not clearly described.
Summary of change: ⌘	- The primary CPICH is always the phase reference for a downlink physical channel using open loop TX diversity are described. - The table that summarizes the possible phase references usable on different downlink physical channel types are described.
Consequences if not approved: ⌘	The UE may be implemented differently depending on vendor.

Clauses affected: ⌘	5.3.3.1.1, 5.3.3.1.2, 5.3.3.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ 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.

5.3.3   Common downlink physical channels

5.3.3.1   Common Pilot Channel (CPICH)

The CPICH is a fixed rate (30 kbps, SF=256) downlink physical channel that carries a pre-defined bit/symbol sequence. Figure 13 shows the frame structure of the CPICH.
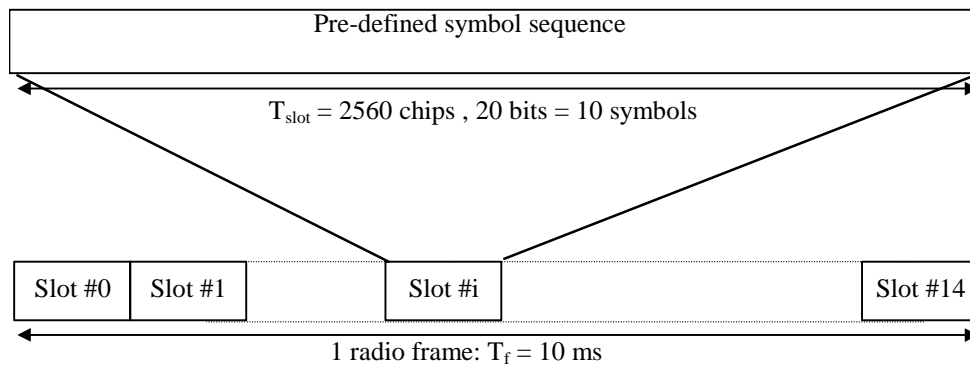
Figure 13: Frame structure for Common Pilot Channel

In case transmit diversity (open or closed loop) is used on any downlink channel in the cell, the CPICH shall be transmitted from both antennas using the same channelization and scrambling code. In this case, the pre-defined symbol sequence of the CPICH is different for Antenna 1 and Antenna 2, see figure 14. In case of no transmit diversity, the symbol sequence of Antenna 1 in figure 14 is used.
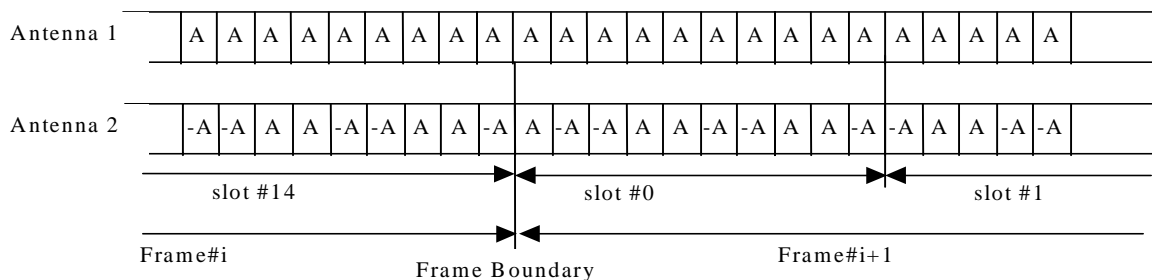
Figure 14: Modulation pattern for Common Pilot Channel (with A = 1+j)

There are two types of Common pilot channels, the Primary and Secondary CPICH. They differ in their use and the limitations placed on their physical features.

5.3.3.1.1   Primary Common Pilot Channel (P-CPICH)

The Primary Common Pilot Channel (P-CPICH) has the following characteristics:

-   The same channelization code is always used for the P-CPICH, see [4];

-   The P-CPICH is scrambled by the primary scrambling code, see [4];

-   There is one and only one P-CPICH per cell;

-   The P- CPICH is broadcast over the entire cell.

The Primary CPICH is a phase reference for the following downlink channels: SCH, Primary CCPCH, AICH, PICH AP-AICH, CD/CA-ICH, CSICH, and the S-CCPCH carrying PCH. By default, the Primary CPICH is also a phase reference for S-CCPCH carrying FACH only and downlink DPCH. The UE is informed by higher layer signalling if the P-CPICH is not a phase reference for an S-CCPCH carrying FACH or a downlink DPCH.

The Primary CPICH is always a phase reference for a downlink physical channel using closed loop TX diversity.

5.3.3.1.2   Secondary Common Pilot Channel (S-CPICH)

A Secondary Common Pilot Channel (S-CPICH) has the following characteristics:

-    An arbitrary channelization code of SF=256 is used for the S-CPICH, see [4];

-    A S-CPICH is scrambled by either the primary or a secondary scrambling code, see [4];

-    There may be zero, one, or several S-CPICH per cell;

-    A S-CPICH may be transmitted over the entire cell or only over a part of the cell;

A Secondary CPICH may be a phase reference for ~~a Secondary CCPCH carrying FACH only and/or~~ a downlink DPCH. If this is the case, the UE is informed about this by higher-layer signalling.

The Secondary CPICH can be a phase reference for a downlink physical channel using open loop TX diversity, instead of the Primary CPICH being a phase reference.

Note that it is possible that neither the P-CPICH nor any S-CPICH is a phase reference for ~~an S-CCPCH carrying FACH only or~~ a downlink DPCH.

5.3.3.2 Downlink phase reference

Table xx summarizes the possible phase references usable on different downlink physical channel types.

Table xx: Application of phase references on downlink physical channel types
"X" – can be applied, "–" – not applied

Physical channel type	Primary-CPICH	Secondary-CPICH	Dedicated pilot
P-CCPCH	X	–	–
SCH	X	–	–
S-CCPCH	X	–	–
DPCH	X	X	X
PICH	X	–	–
PDSCH*	X	X	X
AICH	X	–	–
CSICH	X	–	–

Note *   The same phase reference as with the associated DPCH shall be used.