

CR-Formv3
CHANGE REQUEST
↖ 25.213 CR 038 ↗ rev - ↖ Current version: 3.4.0 ↗

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 Core Network

Title:	Clarification of channelization codes when SF=512	
Source:	Siemens, Panasonic	
Work item code:		Date: 21-Feb-2001
Category:	F	Release: R99
	<i>Use <u>one</u> of the following categories:</i> 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.	<i>Use <u>one</u> of the following releases:</i> 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:	Clarification of scope of operation using proper 3GPP terms
Summary of change:	Restriction of use of SF=512 spreading codes is by cell and based on use of timing adjustment.
Consequences if not approved:	It is not currently clear when restriction of use of odd/even OVFSF codes with SF=512 applies. This would leave an ambiguity in the Uu interface.

Clauses affected:	5.2.1
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> 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.

5.2.1 Channelization codes

The channelization codes of figure 8 are the same codes as used in the uplink, namely Orthogonal Variable Spreading Factor (OVSF) codes that preserve the orthogonality between downlink channels of different rates and spreading factors. The OVSF codes are defined in figure 4 in section 4.3.1.

The channelization code for the Primary CPICH is fixed to $C_{ch,256,0}$ and the channelization code for the Primary CCPCH is fixed to $C_{ch,256,1}$. The channelization codes for all other physical channels are assigned by UTRAN.

With the spreading factor 512 a specific restriction is applied. When the code word $C_{ch,512,n}$, with $n=0,2,4,\dots,510$, is used in soft handover, then the code word $C_{ch,512,n+1}$ is not allocated in the ~~Node B cells~~ where timing adjustment is to be used. Respectively if $C_{ch,512,n}$, with $n=1,3,5,\dots,511$ is used, then the code word $C_{ch,512,n-1}$ is not allocated in the ~~Node B cells~~ where timing adjustment is to be used. This restriction shall not apply ~~for the softer handover operation or in cases UTRAN is synchronised to such a level that~~ where timing adjustments in soft handover are not used with spreading factor 512.

When compressed mode is implemented by reducing the spreading factor by 2, the OVSF code used for compressed frames is:

- $C_{ch,SF/2,h/2}$ if ordinary scrambling code is used.
- $C_{ch,SF/2,n \bmod SF/2}$ if alternative scrambling code is used (see section 5.2.2);

where $C_{ch,SF,n}$ is the channelization code used for non-compressed frames.

In case the OVSF code on the PDSCH varies from frame to frame, the OVSF codes shall be allocated such a way that the OVSF code(s) below the smallest spreading factor will be from the branch of the code tree pointed by the smallest spreading factor used for the connection. This means that all the codes for UE for the PDSCH connection can be generated according to the OVSF code generation principle from smallest spreading factor code used by the UE on PDSCH.

In case of mapping the DSCH to multiple parallel PDSCHs, the same rule applies, but all of the branches identified by the multiple codes, corresponding to the smallest spreading factor, may be used for higher spreading factor allocation.