TSG-RAN Working Group 1 meeting #15 *TSGR1(00)1015*

Berlin, Germany, August 22-25, 2000

Agenda Item: AH21
Source: CWTS
To: TSG RAN WG1
Title: Midamble allocation in the 1.28Mcps TDD
Document for: Decision

1. Summary

The section 6.6 has been copied from the 3.84 Mcps TDD related section 5.4, since in TR25.928 it was noted to be "Common with the 3.84 Mcps TDD". In addition to that some references have been modified.

2. Proposal

We propose to modify the following paragraphs in the working CR for the TS25.221 as the description of the midamble allocation for physical channels of the 1.28Mcps TDD.

6.6 Midamble Allocation for Physical Channels

In general, midambles are part of the physical channel configuration which is performed by higher layers.

Optionally, if no midamble is allocated by higher layers, a default midamble allocation shall be used. This default midamble allocation is given by a fixed association between midambles and channelisation codes, see clause C.2, and shall be applied individually to all channelisation codes within one time slot. Different associations apply for different cell configurations with respect to the maximum number of midambles.

6.6.1 Midamble Allocation for DL Physical Channels

Physical channels providing the beacon function shall always use the reserved midambles, see 6.5. For all other DL physical channels the midamble allocation is signalled or given by default.

6.6.1.1 Midamble Allocation by signalling

Either a common or a UE specific midamble shall be signalled to the UE as a part of the physical channel configuration. Common or UE specific midambles may be applied only if the conditions in subclauses 6.6.1.1.1 and subclause 6.6.1.1.2 hold respectively. If the midamble is not signalled as a part of the physical channel configuration, midamble allocation by default shall be used.

6.6.1.1.1 Common Midamble

A common midamble may be assigned to all physical channels in one time slot, if:
- a single UE uses all physical channels in one time slot (as in the case of high datarate service);

or
- multiple UEs use the physical channels in one time slot; and

- no beamforming is applied to any of these DL physical channels; and

- no closed loop TxDiversity is applied to any of these DL physical channels; and

- midambles are not used for PDSCH physical layer signalling.

6.6.1.1.2 UE specific Midamble

An individual midamble may be assigned to each of the UEs in one time slot, if:
- multiple UEs use the physical channels in one time slot; and

- beamforming is applied to all of these DL physical channels; and

- no closed loop TxDiversity is applied to any of these DL physical channels;

or
- PDSCH physical layer signalling based on the midamble is used.

6.6.1.2 Midamble Allocation by default

If no midamble is allocated by signalling, the UE shall derive the midamble from the associated channelisation code and shall use an individual midamble for each channelisation code. For each association between midambles and channelisation codes in annex C.2, there is one primary channelisation code associated to each midamble. A set of secondary channelisation codes is associated to each primary channelisation code. All the secondary channelisation codes within a set use the same midamble as the primary channelisation code to which they are associated.
Higher layers shall allocate the channelisation codes in a particular order. Primary channelisation codes shall be allocated prior to associated secondary channelisation codes. If midambles are reserved for the beacon function, all primary and secondary channelisation codes that are associated with the reserved

midambles shall not be used.

Primary and its associated secondary channelisation codes shall not be allocated to different UE's.

In the case that secondary channelisation codes are used, secondary channelisation codes of one set shall be allocated in ascending order, with respect to their numbering.

6.6.2   Midamble Allocation for UL Physical Channels

If the midamble is part of the physical channel configuration, an individual midamble shall be assigned to all UE's in one time slot.

If no midamble is allocated by higher layers, the UE shall derive the midamble from the assigned channelisation code as for DL physical channels. If the UE changes the SF according to the data rate, it shall always vary the channelisation code along the lower branch of the OVSF tree.