Source: Nokia

Use of Spreading factor 512 with UTRA FDD

Introduction

Earlier is has been agreed to include the spreading factor 512 in UTRA FDD downlink. The 25.211 defines the timing adjustment step for all spreading factors to be 256. As this is not suitable without restrictions to spreading factor 512, a more detailed statement for the operation in connection with spreading factor 512 in soft handover is added.

Use of spreading factor 512 and allocation restrictions.

The use of spreading factor 512 is expected to be limited to the special cases, like with CPCH or perhaps with AICH as has been proposed. None of there uses involves soft handover, thus making the timing adjustment step to conform to the spreading factor 512 would only make it difficult to achieve single slot power control delay in soft handover. Spreading factor 512 may be also used on DCH with DSCH, where DCH may be in soft handover.

Therefore having restrictions in code allocation with spreading factor 512 for the case of soft handover is not expected to cause practical problems for the system operation. The following restriction has been proposed on the reflector in connection with the discussions on 25.211. The following definition was given on the reflector:

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allocate for the SF 512 the branch with contains both the
codes that can be derived from the SF 256 code on the branch
above"
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This can be spelled out with more specification style as follows for 25.211 (section 5.3.2):

When the channelisation codes are generated as in 25.213, when the code word $C_{512,N}$, with N=1,3,5….511, is used in soft handover, then the code word $C_{512,N+1}$ is not allocated in the Node B to be added to the active set. This restriction shall not ably for the softer handover operation or in case UTRAN is synchronised to such a level that timing adjustments in soft handover are not used with spreading factor 512.

Conclusions

The proposed definition is proposed to be added to 25.211 in connection with downlink dedicated channel definitions in section 5.3.2