

Agenda Item: 16

Source: NTT DoCoMo

Title: Text proposal regarding power offset between preamble and message part of PRACH

Document for: Desision

Introduction

In R1-99c03 “Additional open issues to be discussed in R1”, it is listed as an open issue that there is no description on power offset between preamble and message part of PRACH. In Ad Hoc 3 meeting, it was concluded that the power offset should be a parameter informed from UTRAN to UE. This document describes text proposal to clarify it in TS25.214.

Text proposal

Section 6 of TS 25.214

6 Random access procedure

Before the random-access procedure is executed, the UE should acquire the following information from the BCH :

- The preamble spreading code(s) / message scrambling code(s) used in the cell
- The available signatures for each ASC
- The available sub-RACH channels, defined by parameter A. A contains four bits. The A parameter values $0000 \leq A \leq 0111$ are used with AICH transmission timing parameter value 0, and values $0000 \leq A \leq 1111$ with AICH transmission timing parameter value 1. If a certain bit position in parameter A has value 1, it means that corresponding sub-RACH channel is available. Sub-RACH channel_# can have a value among {0,1,2,3}. The LSB of parameter A corresponds to sub-RACH channel_# = 0, and the MSB of parameter A corresponds to sub-RACH_channel_# = 3. The available access slots for different sub-RACH channels are shown in tables 5 and 6 for transmission timing parameter values 0 and 1, respectively.
- The available spreading factors for the message part
- The uplink interference level in the cell
- The primary CCPCH transmit power level
- The AICH transmission timing parameter as defined in 25.211.
- The power offset ΔP_{p-m} between preamble and the message part.
- The power offsets ΔP_0 (power step when no acquisition indicator is received, step 7.3) and ΔP_1 (power step when negative acquisition is received, see step 8.3)

The random-access procedure is:

1. The UE randomly selects a preamble spreading code from the set of available spreading codes. The random function is TBD.

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8. The UE transmits its random access message three or four uplink access slots after the uplink access slot of the last transmitted preamble depending on the AICH transmission timing parameter. Transmission power of the random access message is modified from that of the last transmitted preamble with the specified offset ΔP_{p-m} .
9. A indication of successful random-access transmission is passed to the higher layers.