

Agenda Item: Ad-hoc 9
Source: Alcatel
Title: Revised text proposal for fast power control in compressed mode
Document for: Decision

For large values of TGL, a recovery period length of TGL might not be well adapted, since a lower length should be sufficient to recover a SIR close to the target SIR and since a too large recovery period length is not desirable for low speeds. Therefore, we propose to have a maximum value of 7 slots for RL.

Thus, we propose to change the section 5.1.2.3. of TS 25.214 version 1.1.1. with the following text.

----- Beginning of text proposal -----

5.1.2.3 TRANSMIT POWER CONTROL IN COMPRESSED MODE

~~<Note: The following is a working assumption of WG1.>~~

The aim of uplink power control in downlink or/and uplink compressed mode is to recover as fast as possible a signal-to-interference ratio (SIR) close to the target SIR after each transmission gap.

In downlink compressed mode, no power control is applied during transmission gaps, since no downlink TPC command is sent. Thus, the transmit powers of the uplink DPDCH(s) and DPCCH are not changed during the transmission gaps.

In simultaneous downlink and uplink compressed mode, the transmission of uplink DPDCH(s) and DPCCH is stopped during transmission gaps. <Note: the initial transmit power of each uplink DPDCH or DPCCH after the transmission gap is FFS. >.

After each transmission gap, 2 modes are possible for the power control algorithm. The power control mode (PCM) is fixed and signalled with the other parameters of the downlink compressed mode (see TS 25.231). The different modes are summarised in the table 1:

Table 1. Power control modes during compressed mode.

Mode	Description
0	Ordinary power control is applied with step size Δ_{TPC}
1	Ordinary power control is applied with step size $\Delta_{\text{RP-TPC}}$ during one or more RL slots after each transmission gap <u>with RL being the minimum value of TGL and 7 slots:</u>

<Note: The exact power control algorithm in compressed mode when concatenation of TPC commands are used in normal mode is still FFS. The current description only applies when no concatenation is done

in normal mode. >

For mode 0, the step size is not changed and the ordinary power control is still applied during compressed mode (see subclause 5.1.2.2).

For mode 1, during ~~one or more slots after each transmission gap~~ TGL slots, called the recovery period, the ordinary power control algorithm is applied but with a step size Δ_{RP-TPC} instead of Δ_{TPC} , where Δ_{RP-TPC} is called recovery power control step size and is expressed in dB. The step size Δ_{RP-TPC} is equal to the minimum value of 3 dB and $2\Delta_{TPC}$.

After the recovery period the ordinary power control algorithm with step Δ_{TPC} is performed. The recovery period length (RL) ~~determination is still FSS and is to be chosen between the two following possibilities:~~ is fixed and equal to the minimum value of TGL and 7 slots.

- ~~—The recovery period length is fixed and derived as a function of the Transmission mode parameters mostly the transmission gap period and possibly the spreading factor.~~
- ~~—The recovery period length is adapted and ends when the current and previous received power control commands are opposite or after TGL slots after the transmission gap.~~

----- End of text proposal -----