

Source: 3GPP TSG RAN WG3
Destination: 3GPP TSG RAN WG1
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Title: Liaison Statement on DL Power ramping

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During its 11th meeting, RAN WG3 discussed a new feature related to the start of the DL power: DL power ramping.

Several companies indicated in R3 that they see a need, in case the first DL RL to a UE is established, to allow the node-B to ramp autonomously (without receiving any TPC up commands) above the initial DL power indicated by the RNC to the node-B. At all times the power should ofcourse remain within the maximum DL power boundary set by the RNC.

The power ramping would allow an autonomous power increase by the node-B which may be necessary in situations in which the initial DL power was set too low. Without the power ramping in that case, the UE would not have obtained UL-sync, would not have started its UL transmission, and the RL would not have been established.

The fact that the initial DL power is set too low could be caused by several factors, e.g.:

- although a good measurement was provided by the UE, due to rapid changes in the radio environment the DL power is insufficient;
- an inaccurate measurement was provided by the UE;
- the UTRAN has not received a measurement from the UE for quite some time but now has to change from CELL_FACH to CELL_DCH state for e.g. load reasons;

It was stated that especially for high rate services, just to take a large additional power margin in the initial DL power setting to overcome the indicated problem may not be a solution because:

- the margin that would have to be taken to overcome these problems would be considerable (up to max. DL power allowed in the cell);
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- the sudden ramp-up of such a large DL power (high rate service + margin) would have strong deteriorating effects on the radio circumstances due to the sudden increase in interference that other UE's in the same cell would experience.

WG3 would kindly like to ask WG1 to provide answers to the following questions:

1. Does WG1 agree that a solution based on an additional power margin to overcome the indicated problems could lead to a severe decrease in system performance ?
2. Does WG1 have the opinion that usage of DL power ramping should be considered an essential feature for a W-CDMA system ?
3. If so, would WG1 be willing to specify the details of how the DL power ramping should take place ?

Only if WG1 indicates that without the DL power ramping, a severe degradation in system performance/capacity is expected and for that reason power ramping should be considered an essential feature for a W-CDMA system, will WG3 plan to include this feature in R99.
