

# 8.7.2 Soft and Softer Handover

The handover model proposed is a simplified soft handover. We assume that all base stations transmit with the same pilot power in downlink. Therefore,  $P_{L\_fading}$  (path loss plus the shadow fading) is the only criterion for selecting the base stations belonging to the active set of a mobile station.

We assume that active set for a mobile station consists of two base stations; the base station with the strongest signal, i.e. the lowest  $P_{L\_fading}$ , and the base station with the second strongest signal if its signal strength is within *Handover\_Margin* dB of the strongest signal (in other words its  $P_{L\_fading}$  is within *Handover\_Margin* dB of the lowest  $P_{L\_fading}$ ).

In the case that base stations with omni-antenna are used at the cell sites, selection combining among the base stations in active set is performed and the base station with the strongest signal is selected as the serving base station of the mobile station. In the event of base stations with tri-sector antenna, similar procedure is applied, if the two sectors in the active set belong to different cell sites, else a maximal ratio combining is realized by summing the received signal powers. In the later case, the sum of received C/I values in two sectors should meet the C/I requirements specified by the link level simulation data. Because during softer handover, the mobile station is usually in the overlapping coverage area of two adjacent sectors of the base station, it is reasonable to assume that it has symmetric links to both sectors in the active set. As a consequence, each sector needs to fulfill one half of the C/I requirement.

---

Revision #1

Created 2026-04-17 12:19:13 UTC by ECO TECH

Updated 2026-04-17 12:19:23 UTC by ECO TECH