ADAPTATION OF TRANSMIT POWER FOR NEIGHBORING NODES

**Abstract:** Transmit power (e.g., maximum transmit power) may be defined based on the maximum received signal strength allowed by a receiver and a minimum coupling loss from a transmitting node to a receiver. Transmit power may be defined for an access node (e.g., a femto node) such that a corresponding outage created in a cell (e.g., a macro cell) is limited while still providing an acceptable level of coverage for access terminals associated with the access node. An access node may autonomously adjust its transmit power based on channel measurement and a defined coverage hole to mitigate interference. Transmit power may be defined based on channel quality. Transmit power may be defined based on a signal-to-noise ratio at an access terminal. The transmit power of neighboring access nodes also may be controlled by inter-access node signaling.

**Diagram:**

- **Diagram Description:**
  - HOME FEMTO NODE SETS TRANSMIT POWER TO DEFINED VALUE (e.g., maximum allowable while mitigating macro coverage hole).
  - HOME ACCESS TERMINAL MEASURES SIGNALS FROM NEIGHBORING FEMTO NODES AND SENDS REPORT TO HOME FEMTO NODE (e.g., IN RESPONSE TO REQUEST FROM HOME FEMTO NODE).
  - FEMTO NODE DETERMINES WHETHER RECEIVED SIGNAL FOR HOME ACCESS TERMINAL IS ACCEPTABLE (e.g., based on coverage radius and/or quality of service such as throughput).
  - HOME FEMTO NODE RANKS NEIGHBORING FEMTO NODES ACCORDING TO TRANSMIT POWER (EXCLUDING NEIGHBORING FEMTO NODE THAT SENT NACK AND HAS UNEXPIRED TIMER).
  - HOME FEMTO NODE SENDS MESSAGE TO HIGHEST RANKING NEIGHBORING FEMTO NODE REQUESTING REDUCTION IN TRANSMIT POWER.
  - HOME FEMTO NODE RECEIVES RESPONSE TO MESSAGE.
  - ACK?

**Figure:** FIG. 9

**Title:** ADAPTATION OF TRANSMIT POWER FOR NEIGHBORING NODES

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**Inventors:**
- YAVUZ, Mehmet (US); NANDA, Sanjiv (US); 5775 Morehouse Drive, San Diego, CA 92121 (US).
- EL-KHAMY, Mostafa, S. (US); 5775 Morehouse Drive, San Diego, CA 92121 (US).

**Inventors/Applicants:**
- YAVUZ, Mehmet (TR/US), 5775 Morehouse Drive, San Diego, CA 92121
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**A. CLASSIFICATION OF SUBJECT MATTER**

**INV.** H04W62/04

According to International Patent Classification (IPC) or to both national classification and IPC.

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

H04W

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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**Date of the actual completion of the international search**

28 April 2009

**Date of mailing of the international search report**

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PCT/US2008/072690

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