A method for reporting power headroom is disclosed. Power headroom may be reported across all carriers (wideband), for a specific carrier, or for a carrier group. The formula used to calculate the power headroom depends on whether the carrier (or a carrier in the carrier group) has a valid uplink grant. If the carrier or carrier group does not have a valid uplink grant, the power headroom may be calculated based on a reference grant. The power headroom is calculated by a wireless transmit/receive unit and is reported to an eNodeB.

FIG. 2


Published:
— with international search report (Art. 21(3))
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report: 26 August 2010
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. H04W72/12
ADD.

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim</th>
</tr>
</thead>
</table>

Further documents are listed in the continuation of Box C

See patent family annex

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

22 June 2010

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

12/07/2010

**Name and mailing address of the ISA**

European Patent Office, P B 5818 Patentlaan 2 NL-2280 HV Rijswijk
Tel (+31-70) 340-2040, Fax (+31-70) 346-3016

Authorized officer

Rothl Übbers, C
<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
</tr>
</thead>
<tbody>
<tr>
<td>X,P</td>
<td>RESEARCH IN MOTION UK LIMITED: &quot;Uplink Power Control for Carrier Aggregation&quot; 3GPP DRAFT; R1-093297(RIM-UP POWER CONTROL FOR CA), 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE; 650, ROUTE DES LUCIOLES; F-06921 SOPHIA-ANTIPOLIS CEDEX; FRANCE, no. Shenzhen, China; 20090818, 18 August 2009 (2009-08-18), XP050351621 [retrieved on 2009-08-18] the whole document</td>
<td>1,21</td>
</tr>
<tr>
<td>Patent document cited in search report</td>
<td>Publication date</td>
<td>Patent family member(s)</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------------</td>
<td>-------------------------</td>
</tr>
</tbody>
</table>