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[Continued on next page]

(54) Title: MULTI-CELL COORDINATION FOR MULTIMEDIA BROADCAST MULTICAST SERVICES IN A WIRELESS COMMUNICATION SYSTEM

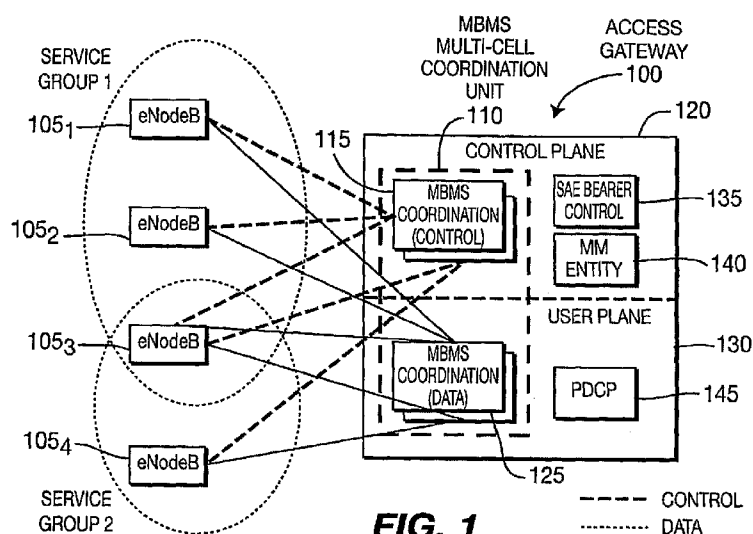


FIG. 1

(57) Abstract: The present invention is related to a method and system for multi-cell coordination for multimedia broadcast multicast services (MBMS) in a wireless communication system. An MBMS multi-cell coordination unit is provided to coordinate a plurality of evolved Node-Bs (eNodeBs) for transmission of MBMS data synchronously in multiple cells of the same single frequency network (SFN). The MBMS multi-cell coordination unit may be located in an access gateway or in an eNodeB. An MBMS multi-cell scheduling scheme may be preconfigured for the eNodeBs for synchronization. Alternatively, the eNodeBs may be synchronized dynamically.



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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER.
INV. H04Q7/22

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)
H04Q

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

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	NTT DOCOMO: "MBMS functional allocation for SAE/LTE" 3GPP TSG-RAN3#51BIS, R3-060416, [Online] 3 April 2006 (2006-04-03), XP002470007 Sophia Antipolis, France Retrieved from the Internet: URL:www.3gpp.org> [retrieved on 2008-02-19]	1-12, 21-28
Y	the whole document	13-20, 29-49
X	EP 1 372 350 A (SAMSUNG ELECTRONICS CO LTD [KR]) 17 December 2003 (2003-12-17)	1-12, 21-28
Y	paragraphs [0002], [0007], [0021] - [0028]	13-20, 29-49
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☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
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- * & * document member of the same patent family

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International application No

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	ALCATEL SHANGHAI BELL: "Synchronization requirements for MBMS RF combining in LTE SFN" 3GPP TSG-RAN WG RAN3#53, R3-061007, [Online] 28 August 2006 (2006-08-28), XP002470008 Tallinn, Estonia Retrieved from the Internet: URL:www.3gpp.org> [retrieved on 2008-02-19] the whole document	1-12, 21-28
P,X	ALCATEL SHANGHAI BELL: "L2 content transmission synchronization for MBMS in LTE SFN" 3GPP TSG-RAN WG RAN3 #53, R3-061008, [Online] 28 August 2006 (2006-08-28), XP002470009 Tallinn, Estonia Retrieved from the Internet: URL:www.3gpp.org> [retrieved on 2008-02-19] the whole document	1-12, 21-28
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Y	US 2005/094618 A1 (COLBAN ERIK [US] ET AL) 5 May 2005 (2005-05-05)	13-20, 29-36, 43-49
A	paragraphs [0002], [0005], [0018] - [0020], [0035], [0-43], [0061], [0069] - [0077]	1-12, 21-28, 37-42
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/017712

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/146745 A1 (CAI ZHIJUN [US] ET AL) 6 July 2006 (2006-07-06) paragraphs [0005], [0015], [0018] - [0027], [0037], [0085] - [0091] -----	1-49
E	WO 2007/148187 A (NOKIA CORP [FI]; PEKONEN JOHANNA [FI]; HAKULI TUOMAS T [FI]; VESTERINE) 27 December 2007 (2007-12-27) page 6, line 1 - page 8, line 8 -----	1-49
E	WO 2007/149349 A (LUCENT TECHNOLOGIES INC [US]; BACHL RAINER WALTER [DE]; CHENG FANG-CHE) 27 December 2007 (2007-12-27) page 5, line 19 - page 10, line 19 -----	1-49
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A		1-36, 43-49

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/017712

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claim: 1 to 12 and 21 to 28

method and system for coordinating the provision of MBMS

2. claims: 13 to 20, 29 to 36 and 43 to 49

method, system and apparatus for dynamically coordinating
the provision of MBMS

3. claim: 37 to 42

apparatus for modifying existing MBMS functionalities into
the LTE architecture

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/017712

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