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- (71) Applicant: QUALCOMM INCORPORATED [US/US];
ATTN: International IP Administration, 5775 Morehouse Drive, San Diego, California 92121 (US).
- (72) Inventors: BHATTAD, Kapil; 5775 Morehouse Drive, San Diego, California 92121 (US). GORE, Dhananjay A.; 5775 Morehouse Drive, San Diego, California 92121 (US). MALLADI, Durga Prasad; 5775 Morehouse Drive, San Diego, California 92121 (US). WEI, Yongbin; 5775 Morehouse Drive, San Diego, California 92121 (US). GAAL, Peter; 5775 Morehouse Drive, San Diego, California 92121 (US).

(74) Agent: LENKIN, Alan M.; Seyfarth Shaw LLP, Suite 3500, 2029 Century Park East, Los Angeles, California 90067-3021 (US).

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Published:
— with international search report (Art. 21(3))

[Continued on next page]

(54) Title: WIRELESS COMMUNICATION IN VIEW OF TIME VARYING INTERFERENCE

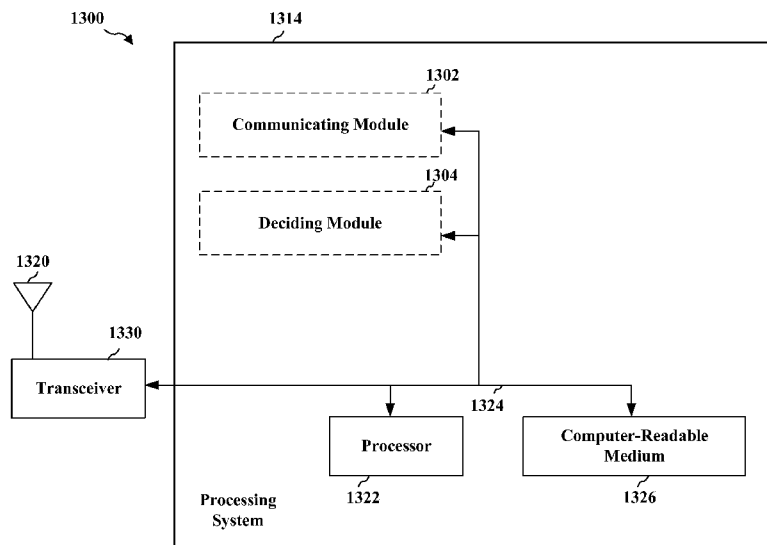


FIG. 13

(57) Abstract: In wireless communication systems, a determination may be made whether to hand off a user equipment (UE) based on whether the UE encounters time varying interference, such as UE to UE interference. The time varying interference may be present only in a specific set of time/frequency resources or subframes. Measurement reporting may be restricted to time/frequency resources which do not experience the time varying interference.

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— *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))*

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INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER
INV. H04W24/10 H04W36/00 H04W36/20
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 practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| A | "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Universal Terrestrial Radio Access Network (E-UTRAN); Overall description; Stage 2 (Release 11); EXCERPT, pages 1-21, 37-39, 58-89, 115-118", 3GPP STANDARD; 3GPP TS 36.300, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG2, no. V11.1.0, 12 March 2012 (2012-03-12), pages 1-194, XP002699887, [retrieved on 2012-03-12] page 60, paragraph 10.1.2 - page 63; figures 10.1.2.1.1-1 -/-- | 1-32 |

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
- "E" earlier application or patent but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

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| Date of the actual completion of the international search 26 September 2013 | Date of mailing of the international search report 07/10/2013 |
| 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) 340-3016 | Authorized officer Martos Riaño, Demian |

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2013/034657

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|--|---------------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| | page 116, paragraph 16.1.5 - page 117 ----- | |
| X | US 2011/110251 A1 (KRISHNAMURTHY SANDEEP H [US] ET AL) 12 May 2011 (2011-05-12) | 69-72 |
| A | paragraph [0067] - paragraph [0078]; figures 4,5 ----- | 1-32 |
| X | QUALCOMM INCORPORATED: "eICIC RLM and RRM requirements", 3GPP DRAFT; R4-103790 EICIC RLMRRM REQUIREMENTS, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG4, no. Xian; 20101011, 7 October 2010 (2010-10-07), XP050455429, [retrieved on 2010-10-07] ----- | 1-32 |
| Y | the whole document | 40,50 |
| X | US 2011/312319 A1 (LINDOFF BENGT [SE] ET AL) 22 December 2011 (2011-12-22) | 33-39, 43-49, 53-68 |
| Y | paragraph [0050] - paragraph [0053]; | 40,50 |
| A | figures 7-8 ----- | 41,42, 51,52 |
| X | RESEARCH IN MOTION UK LIMITED: "Measurement Configuration for eICIC", 3GPP DRAFT; R2-106622 MEASUREMENT CONFIGURATION FOR EICIC, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG2, no. Jacksonville, USA; 20101115, 9 November 2010 (2010-11-09), XP050492378, [retrieved on 2010-11-09] ----- | 33-39, 43-49, 53-68 |
| Y | the whole document | 40,50 |
| X | SAMSUNG: "Views on signalling requirements for CRS interference handling", 3GPP DRAFT; R2-121495 CRS INTERFERENCE CANCELLATION, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG2, no. Jeju, Korea; 20120326 - 20120330, 19 March 2012 (2012-03-19), XP050606005, [retrieved on 2012-03-19] ----- | 1,16,31, 32 |
| Y | the whole document | 40,50 |
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2013/034657

| C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|--|---|-----------------------|
| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| X | <p>ALCATEL-LUCENT ET AL: "Inter-freq RRM Requirements for feICIC", 3GPP DRAFT; R4-120331, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG4, no. Dresden, Germany; 20120206 - 20120210, 30 January 2012 (2012-01-30), XP050568056, [retrieved on 2012-01-30] the whole document -----</p> | 69-72 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2013/034657

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 all searchable 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. claims: 1-32

Handover decision based on variation of interference over time

2. claims: 33-68

Decision to restrict measurements to specific subframes and report

3. claims: 69-72

Restricting the set of time/frequency resources to be monitored for UEs in idle mode or performing inter-frequency measurement

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2013/034657

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|--|------------------|-------------------------|------------------|
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| | | EP 2497299 A2 | 12-09-2012 |
| | | KR 20120087167 A | 06-08-2012 |
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| | | WO 2011057037 A2 | 12-05-2011 |
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| | | WO 2011161015 A1 | 29-12-2011 |
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