

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 092589WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2010/039522	International filing date (day/month/year) 22/06/2010	(Earliest) Priority Date (day/month/year) 22/06/2009
Applicant QUALCOMM Incorporated		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- the international application in the language in which it was filed
 a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- the text is approved as submitted by the applicant
 the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- the text is approved as submitted by the applicant
 the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 5
 as suggested by the applicant
 as selected by this Authority, because the applicant failed to suggest a figure
 as selected by this Authority, because this figure better characterizes the invention
- b. none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/039522

A. CLASSIFICATION OF SUBJECT MATTER
INV. H04L25/03
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)
H04L
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, COMPENDEX, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2008/115588 A2 (INTERDIGITAL TECH CORP [US]; PAN KYLE JUNG-LIN [US]; GRIECO DONALD M []) 25 September 2008 (2008-09-25)	1-4, 8-11, 14-16, 18-20
Y	paragraph [0051]; figure 12 ----- -/--	5-7,12, 13,17, 21,22

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"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</p> <p>"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.</p> <p>"&" document member of the same patent family</p>
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Date of the actual completion of the international search 15 February 2011	Date of mailing of the international search report 22/02/2011
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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 Barrientos Lezcano
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2010/039522

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MOTOROLA: "Proposal for Dedicated Pilots in Downlink Precoding for EUTRA MIMO", [Online] vol. R1-070770, no. 48, 12 February 2007 (2007-02-12), pages 1-5, XP002494688, Retrieved from the Internet: URL:http://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_48/Docs/R1-070770.zip> [retrieved on 2007-02-12] section II figure 2	1-4, 9-11, 14-16, 18-20, 23-25, 30-32, 37-39, 43-45
X	US 2008/260059 A1 (PAN KYLE JUNG-LIN [US]) 23 October 2008 (2008-10-23)	23-26, 30-33, 37-39, 42-46
Y	paragraph [0090]; claim 12; figure 1b	29, 34-36, 40,41
X	NORTEL: "Rank-1 and Rank-2 Transmission for High Mobility UE", 3GPP DRAFT; R1-073977(NORTEL-RANK1&2 TRANS HIGH MOBILITY UE), 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG1, no. Shanghai, China; 20071001, 1 October 2007 (2007-10-01), XP050107535, [retrieved on 2007-10-01]	23,24, 27,28, 30,31, 37,38, 43,44,47
Y	sections I-II	5-7,12, 13,17, 21,22, 29, 34-36, 40,41
A	PANASONIC: "Ack/Nack repetition and Implicit Resource Allocation for PUCCH", 3GPP DRAFT; R1-081796, 3RD GENERATION PARTNERSHIP PROJECT (3GPP), MOBILE COMPETENCE CENTRE ; 650, ROUTE DES LUCIOLES ; F-06921 SOPHIA-ANTIPOLIS CEDEX ; FRANCE, vol. RAN WG1, no. Kansas City, USA; 20080514, 14 May 2008 (2008-05-14), XP050110175, [retrieved on 2008-05-14] section III	26,33, 42,46

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2010/039522

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
WO 2008115588	A2	25-09-2008	AR 067242 A1	07-10-2009
			AU 2008229273 A1	25-09-2008
			CA 2681378 A1	25-09-2008
			CN 101636994 A	27-01-2010
			EP 2137917 A2	30-12-2009
			JP 2010522499 T	01-07-2010
			KR 20090120008 A	23-11-2009
			KR 20090128571 A	15-12-2009
			US 2008232494 A1	25-09-2008

US 2008260059	A1	23-10-2008	AR 066220 A1	05-08-2009
			AU 2008242610 A1	30-10-2008
			CA 2684874 A1	30-10-2008
			CN 101689962 A	31-03-2010
			EP 2147516 A1	27-01-2010
			JP 2010525684 T	22-07-2010
			KR 20090130206 A	18-12-2009
			KR 20100017117 A	16-02-2010
			WO 2008131352 A1	30-10-2008
