

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43*bis*.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2006/042599

International filing date (day/month/year)
27.10.2006

Priority date (day/month/year)
27.10.2005

International Patent Classification (IPC) or both national classification and IPC
INV. H04L12/28
ADD. H04Q7/38

Applicant
QUALCOMM INCORPORATED

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**


If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Date of completion of this opinion

see form PCT/ISA/210

Authorized Officer

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established 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)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - on paper
 - in electronic form
 - c. time of filing/furnishing:
 - contained in the international application as filed.
 - filed together with the international application in electronic form.
 - furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

see separate sheet

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-9</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-9</u>
Industrial applicability (IA)	Yes: Claims	<u>1-9</u>
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Concerning Section I,
Basis of the report

Reference is made to the following documents, which are cited in the International Search Report:

- D1: 3GPP2: "cdma2000 High Rate Packet Data Air Interface specification, chapter 9: Connection Layer" C.S0024-A, VERSION 1.0, March 2004 (2004-03), pages 9-1-9-143, XP002424014
- D2: US 2002/119787 A1 (HUNZINGER JASON F [US]) 29 August 2002 (2002-08-29)
- D3: WO 00/18173 A (QUALCOMM INC [US]) 30 March 2000 (2000-03-30)
- D4: WO 03/043251 A (SIEMENS AG [DE]; KERN RALF [DE]; BOLINTH EDGAR [DE]) 22 May 2003 (2003-05-22)
- D5: TOMCIK J ET AL: "QFDD and QTDD: Proposed Draft Air Interface Specification, chapter 6, Lower MAC Control Sublayer" IEEE C802.20-05/69, XX, XX, 28 October 2005 (2005-10-28), pages I-XXXI,1, XP002423447

Concerning Section VI,
Certain documents cited:

Certain published documents (see Rule 70.10 PCT)

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
D5=XP002423447	28.10.05	-	-

Concerning Section II
Priority of the international application

The document D5 indicated in the International Search Report as a P-document is not (see Rule 64.3 PCT) to be regarded as state of the art according to Articles 33(2) and (3) PCT, as the date of priority claimed can be allowed for the presently claimed parts of the present application (see Rule 64.1 b) ii) PCT).

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Concerning Section V.

Reasoned statement with regard to novelty, inventive step or industrial applicability

- 1 The present application does not meet the requirements of the PCT, because the subject-matter of **Claim 1** does not involve an inventive step in the sense of Article 33(3) PCT.
 - 1.1 Document D1, which is considered to represent the most relevant state of the art, discloses a method for transmitting a RouteUpdate message in a wireless communication system comprising the step of generating a RouteUpdate message (see D1, paragraph 9.7.6.1.6.5).
 - 1.2 **Remarks:**
 - In D1 (see paragraph 9.7.6.1.6.5), the rules (conditions) for generating and transmitting the message are identical to those listed on page 10, line 14 - page 12, line 3 of the application.
 - The access terminal of D1 supports a maximum active set size of $N_{\text{RUPActive}}$ pilots (see D1, paragraph 9.7.6.1.5.1).
 - When receiving a TrafficChannelAssignment message, it sets its Active Set to the list of pilots specified in the message (see D1, paragraphs 9.7.6.1.5.1, 9.7.6.1.6.3.1).
 - 1.3 The claimed subject-matter differs from this known method in that:
 - a) The message is called PilotReport message instead of RouteUpdate message.
 - b) There is an additional step of "determining if an Active Set Size value is greater than one".
 - 1.4 In the light of this closest prior art, the problem to be solved by the present invention may therefore be regarded as to enable maintaining communication while the condition of each of the links is not sufficient to allow successful communication through a single link.
 - 1.5 No positive contribution to an inventive step can be seen in formulating this particular problem, because the person skilled in the art knows from document D2 the principle of determining whether the new active set contains more than one base station, and

if yes, to maintain communications with several base stations simultaneously, in order to solve the problem of to maintain communication while the condition of each of the links is not sufficient to allow successful communication through a single link (see D2, paragraphs 25 and 27).

- 1.6 With this knowledge concerning the same problem it is obvious for the person skilled in the art to provide the determining step as claimed in the method of D1.
- 1.7 In addition, the different name for the message, which undoubtedly is a message for reporting pilots, merely relates to presentation of information and apparently does not add anything of inventive significance to the claimed subject-matter.
- 1.8 Consequently, the claimed solution is an obvious design possibility for the skilled person when solving the problem posed, the requirements of Article 33(3) PCT are not met.
- 2 For the same reason, the corresponding apparatus **Claim 7** does not involve the inventive step required by Article 33 (3) PCT.
- 3 The subject-matter (i.e. computer-readable medium) of **Claim 4**, which comprises sets of instructions for carrying out the method of Claim 1, does not involve an inventive step in the sense of Article 33 (3) PCT for the same reasons, because the implementation of protocols in software and the storage of software on a computer readable medium is regarded as common practice.
- 4 The dependent **Claims 2, 3, 5, 6, 8, 9** do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to inventive step, the reasons therefore are that their features appear to consist of slight constructional changes which come within the scope of the customary practice followed by persons skilled in the art.
- 5 As the claimed solution and the claimed embodiments are already suggested by document D1 in combination with D2, the subject-matter of all claims is industrially

applicable in the sense of Article 33(4) PCT.

6 Remarks concerning clarity of the international application:

- 6.1 In the light of the Rule 5.1(a)(iii) PCT, there must not exist any inconsistencies between the description and the claims, as it may throw doubt on the extent of protection and therefore render the claim unclear in the sense of Article 6 PCT. This requirement is not met by present **Claims 2, 5, 8**, which are not consistent with figure 5A and paragraph 48 defining only a transmission of the message if:
- the Active Set Size Value is greater than one,
 - the EnhancedPilotReportEnabled value is one, and
 - the strength of a pilot in the active set has changed by more than an EnhancedPilotResponseThreshold value since the last transmitted PilotReport message.
- 6.2 A similar comment applies to **Claims 3, 6, 9**, where it is also described that only if all the conditions in the claim are met, the PilotReport message is transmitted.
- 6.3 For clarity reasons, the following sentences should be amended as follows:
- **Claims 2, 5, 8:** (the?) strength of a pilot
 - **Claims 3, 6, 9:** of (the?) total interference and if the strength of (the?) strongest non active pilot is more (than EnhancedPilotThreshold away) from the strength of a (second strongest) pilot at a time when the last pilot report was transmitted (see paragraph 45)
- 6.4 In order to meet the requirements of Article 6 PCT, the sentences of **Claims 1-9** should have been corrected by replacing "characterized in that" by "characterized by".

7 Remarks concerning formal defects in the international application:

- 7.1 The first paragraph of the description contains irrelevant matter and should therefore have been deleted according to Rule 9.1 iv) PCT. In addition, the "incorporated by reference" statement in this paragraph should have been deleted, since the

- application should be self-contained and this document clearly does not contain matter regarding essential features of the invention. Furthermore, it should be noted that references to unpublished documents should have been deleted or replaced by issued patent or application numbers.
- 7.2 The requirements of Rule 11.8 PCT are not met.
- 7.3 In order to meet the requirements of Rule 5.1.(a),(ii) PCT, the most relevant prior art, i.e. D1, should have been acknowledged by reference and briefly discussed in the introductory part of the description.
- 7.4 All the claims should include reference signs in parentheses where features shown in the drawings are referred to (see Rule 6.2 (b) PCT).
- 7.5 According to the requirements of Rule 11.13(l) PCT, all reference numbers used in the description or claims have to appear on the drawings. This requirement is not met by EnhancedPilotReportEnabled, EnhancedPilotResponseThreshold, EnhancedPilotReport used in **Claims 2, 3, 5, 6, 8, 9**.
- 7.6 The general statements in paragraphs 8, 12, 52 of the description imply that the subject-matter for which protection is sought may be different to that defined by the claims, thereby resulting in lack of clarity (see Article 6 PCT) when used to interpret them. These statements should therefore have been deleted to remove this inconsistency.
- 7.7 The reference to an unpublished document should have been replaced by issued patent or application numbers or deleted where it appears in paragraph 24.
- 7.8 The attention of the Applicant is finally drawn to the fact that, when entering the national phase, the application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed (see Articles of the national law corresponding to Article 34.2(b) PCT like e.g. Article 123(2) EPC).
- 7.9 In order to facilitate the examination of the conformity of the amended application

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with the requirements of these Articles, the Applicant is requested to clearly identify the amendments carried out, no matter whether they concern amendments by addition, replacement or deletion, and to indicate the passages of the application as filed on which these amendments are based (see also Rule 66.8(a) PCT).