

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference <b>110518PCT</b>	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. <b>PCT/CN2011/073056</b>	International filing date ( <i>day/month/year</i> ) <b>20 April 2011 (20.04.2011)</b>	Priority date ( <i>day/month/year</i> ) <b>22 December 2010 (22.12.2010)</b>	
International Patent Classification (8th edition unless older edition indicated) <b>See relevant information in Form PCT/ISA/237</b>			
Applicant <b>ZTE CORPORATION</b>			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report <b>25 June 2013 (25.06.2013)</b>
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  <b>Lingfei Bai</b>
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# PATENT COOPERATION TREATY

† From the  
INTERNATIONAL SEARCHING AUTHORITY

To:  <div style="text-align: center; margin: 10px 0;">100086</div> Suite 717, E-Wing Center, No. 113 Zhichun Road, Haidian District, Beijing 100086, P.R. China  CHINA PAT INTELLECTUAL PROPERTY OFFICE
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## PCT

**WRITTEN OPINION OF THE INTERNATIONAL  
SEARCHING AUTHORITY**

(PCT Rule 43 *bis*.1)

Date of mailing (day/month/year) 22 Sep. 2011 (22.09.2011)
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Applicant's or agent's file reference <div style="text-align: center; margin: 5px 0;">110518PCT</div>	<b>FOR FURTHER ACTION</b>  See paragraph 2 below
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International application No. <div style="text-align: center; margin: 5px 0;">PCT/CN2011/073056</div>	International filing date (day/month/year) <div style="text-align: center; margin: 5px 0;">20 Apr. 2011 (20.04.2011)</div>	Priority date (day/month/year) <div style="text-align: center; margin: 5px 0;">22 Dec. 2010 (22.12.2010)</div>
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International Patent Classification (IPC) or both national classification and IPC <div style="text-align: center; margin: 5px 0;">H04W48/06 (2009.01) i</div>
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Applicant  <div style="text-align: center; margin: 5px 0;">ZTE CORPORATION et al.</div>
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<p>1. This opinion contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Rule 43<i>bis</i>.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul> <p>2. <b>FURTHER ACTION</b></p> <p>If a demand for international preliminary examination is made, this opinion will 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<i>bis</i>(b) that written opinions of this International Searching Authority will not be so considered.</p> <p>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.</p> <p>For further options, see Form PCT/ISA/220.</p> <p>3. For further details, see notes to Form PCT/ISA/220.</p>
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Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R. China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Date of completion of this opinion <div style="text-align: center; margin: 5px 0;">15 Sep. 2011 (15.09.2011)</div>	Authorized officer <div style="text-align: center; margin: 5px 0;">LIU, Xin</div>  Telephone No. (86-10)62411325
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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/CN2011/073056

**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.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91(Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of :
  - a. a sequence listing filed or furnished
    - on paper
    - in electronic form
  - b. time of filing or furnishing
    - contained in the applicant as filed
    - filed together with the application in electronic form
    - furnished subsequently to this Authority for the purposes of search
4.  In addition, in the case that more than one version or copy of a sequence listing 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.
5. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
**PCT/CN2011/073056**

**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)	Claims	1-9	YES
	Claims	None	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-9	NO
Industrial applicability (IA)	Claims	1-9	YES
	Claims	None	NO

2. Citations and explanations

Reference is made to the following document:

D1: CN101778447A      14 July 2010 (14.07.2010)

D2: CN1374773A      16 Oct. 2002 (16.10.2002)

**Novelty:**

D1 is regarded as being the closest prior art to the subject-matters of claims 1 and 6, and D1 (see specification paragraph [0025]-[0033]) discloses an access control method and a device for an access terminal in wireless communication field. A comparison unit (corresponding to the priority module of claim 6) of the device (corresponding to the base station system of claim 1) compares pilot strengths of carrier frequencies, and obtains the highest pilot strength according to the pilot strength measurement message; when allocating carrier frequencies for the access terminal, an indication unit (corresponding to the allocation module of claim 6) of the device will indicate that the access terminal should access the carrier frequency corresponding to the pilot with the highest strength.

Claims 1 and 6 meets the criteria set out in Article 33(2) PCT, because D1 does not explicitly or implicitly disclose the following features of claims 1 and 6: allocating an access frequency point for the terminal according to the priority and load balance situation among frequency points.

The dependent claims 2-5, 7-9 also meet the criteria set out in PCT Article 33 (2).

**Inventive step:**

1. The subject-matter of claim 1 differs from D1 in that: allocating an access frequency point for the terminal according to the priority and load balance situation among frequency points.

Based on the differences above, the problem to be solved by claim 1 may be regarded as: how to improve the access success ratio of the terminal when the access frequency point has a heavy load.

However, the differences above is disclosed in D2 (see specification page 3 paragraphs 5-9): according to the load balance, the base station decides whether a user can access the frequency point.

It would be obvious for a person skilled in the art to apply the teaching of D2 to D1, and to arrive at the subject-matter of claim 1 without exercising an inventive step. Therefore, the subject-matter of claim 1 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 2 and D1 are the additional features of claim 2.

Based on the differences above, the problem to be solved by claim 2 may be regarded as: how to obtain accurate pilot strengths and priorities.

However, the differences are well-known in the art. It is a common technical means for a person skilled in the art to adopt the statistic method described in claim 2 to calculate and obtain accurate pilot strengths, and it is obvious for a person skilled in the art to obtain a priority ordering list according to the pilot strengths.

It would be obvious for a person skilled in the art to apply the teaching of D2 and the common knowledge to D1, and to arrive at the subject-matter of claim 2 without exercising an inventive step. Therefore, the subject-matter of claim 2 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 3 and D1 are the additional features of claim 3.

Based on the differences above, the problem to be solved by claim 3 may be regarded as: how to update the priority ordering list.

However, the differences are well-known in the art. It is a common technical means for a person skilled in the art to adopt the update method described in claim 3 to obtain a new priority ordering list.

(see Supplemental Box)

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**

Continuation of: **Box No. V2.** Citations and explanations

It would be obvious for a person skilled in the art to apply the teaching of D2 and common knowledge to D1, and to arrive at the subject-matter of claim 3 without exercising an inventive step. Therefore, the subject-matter of claim 3 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 4 and D1 are the additional features of claim 4.

Based on the differences above, the problem to be solved by claim 4 may be regarded as: how to order the priority ordering list.

However, the differences are well-known in the art. It is obvious for a person skilled in the art to order the priority ordering list according to the pilot strengths in descending order and decline priorities of access frequency points successively according to the ordering.

It would be obvious for a person skilled in the art to apply the teaching of D2 and common knowledge to D1, and to arrive at the subject-matter of claim 4 without exercising an inventive step. Therefore, the subject-matter of claim 4 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 5 and D1 are the additional features of claim 5.

Based on the differences above, the problem to be solved by claim 5 may be regarded as: how to decide whether an access frequency point can be accessed according to the priority ordering list and load balance situation among frequency points.

However, the differences are well-known in the art. It is obvious for a person skilled in the art to select the access frequency point which has the highest priority and satisfies the load balance to be accessed.

It would be obvious for a person skilled in the art to apply the teaching of D2 and common knowledge to D1, and to arrive at the subject-matter of claim 5 without exercising an inventive step. Therefore, the subject-matter of claim 5 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

2. The subject-matter of claim 6 differs from D1 in that: allocating an access frequency point for the terminal according to the priority and load balance situation among frequency points.

Based on the differences above, the problem to be solved by claim 6 may be regarded as: how to improve the access success ratio of the terminal when the access frequency point has a heavy load.

However, the differences above is disclosed in D2 (see specification page 3 paragraphs 5-9): according to the load balance, the base station decides whether a user can access the frequency point.

It would be obvious for a person skilled in the art to apply the teaching of D2 to D1, and to arrive at the subject-matter of claim 6 without exercising an inventive step. Therefore, the subject-matter of claim 6 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 7 and D1 are the additional features of claim 7.

Based on the differences above, the problem to be solved by claim 7 may be regarded as: how to obtain accurate pilot strengths and priorities.

However, the differences are well-known in the art. It is a common technical means for a person skilled in the art to adopt the statistic method described in claim 7 to calculate and obtain accurate pilot strengths, and it is obvious for a person skilled in the art to obtain a priority ordering list according to the pilot strengths.

It would be obvious for a person skilled in the art to apply the teaching of D2 and the common knowledge to D1, and to arrive at the subject-matter of claim 7 without exercising an inventive step. Therefore, the subject-matter of claim 7 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 8 and D1 are the additional features of claim 8.

Based on the differences above, the problem to be solved by claim 8 may be regarded as: how to update the priority ordering list.

However, the differences are well-known in the art. It is a common technical means for a person skilled in the art to adopt the update method described in claim 8 to obtain a new priority ordering list.

It would be obvious for a person skilled in the art to apply the teaching of D2 and common knowledge to D1, and to arrive at the subject-matter of claim 8 without exercising an inventive step. Therefore, the subject-matter of claim 8 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

The further differences between claim 9 and D1 are the additional features of claim 9.

Based on the differences above, the problem to be solved by claim 9 may be regarded as: when and how to decide whether a access frequency point can be accessed according to the priority ordering list and load balance situation among frequency points.

However, the differences are well-known in the art. It is obvious for a person skilled in the art to select the access frequency point which has the highest priority and satisfies the load balance to be accessed when the pilot strength of the access frequency point reported by the terminal is weaker and an access frequency point is needed to be allocated.

It would be obvious for a person skilled in the art to apply the teaching of D2 and common knowledge to D1, and to arrive at the subject-matter of claim 9 without exercising an inventive step. Therefore, the subject-matter of claim 9 does not involve an inventive step, and does not meet the criteria set out in PCT Article 33 (3).

(see Supplemental Box)

**Supplemental Box**

In case **the space in any of the preceding boxes is not sufficient.**

Continuation of: **Box No. V2.** Citations and explanations

**Industrial applicability:**

The inventions of claims 1-9 can be produced or used in the field of communications, and thus meet the requirements of Article 33 (4) PCT.