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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/286,884	01/13/2015	8934445	176.0006-11000	2686

22882 7590 12/23/2014
MARTIN & FERRARO, LLP
1557 LAKE O'PINES STREET, NE
HARTVILLE, OH 44632

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Xiaodong Li, Bellevue, WA;
Adaptix, Inc., Plano, TX, Assignee (with 37 CFR 1.172 Interest);
Hui Liu, Clyde Hill, WA;
Wenzhong Zhang, Bellevue, WA;
Kemin Li, Bellevue, WA;

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Substitute for FORM PTO-1449		Attorney Docket Number 176.0006-11000		Customer No. 22882		
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION		Applicant Xiaodong Li et al.		Application Number 14/286,884		
(Use several sheets if necessary) Sheet <u>1</u> of <u>2</u>		Filing Date May 23, 2014		Group Art Unit 2474		Examiner F. Duong
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
IPRs 3-4	6,215,827	4/2001	Balachandran et al.			
IPRs 1-4	6,567,374	5/2003	Bohnke et al.			
Lits. 38-41 and 43-46	6,801,513	10/2004	Gibbons et al.			
Lits. 38-41 and 43-46	6,801,775	10/2004	Gibbons et al.			
Lits. 38-41 and 43-46	7,720,468	5/2010	Hong et al.			
	8,797,970	8/2014	Xing et al.			
	8,891,414	11/2014	Li et al.			
	2014/0328276	11/2014	Xing et al.			
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION (YES/NO)
JP Trial 9	JP 10-503893	4/1998	Japan			ABSTRACT ONLY
JP Trial 9	JP 11-289578	10/1999	Japan			ABSTRACT ONLY
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
Lit. 34; IPR 2	Adaptix, Inc. v. BlackBerry Ltd. et al., Plaintiff's Disclosure of Asserted Claims and Infringement Contentions, with Exhibit A, Civil Action No. 6:13-cv-434, February 19, 2014, 108 pgs.					
Lit. 34; IPR 1	Adaptix, Inc. v. BlackBerry Ltd. et al., Plaintiff's Disclosure of Asserted Claims and Infringement Contentions, with Exhibit B, Civil Action No. 6:13-cv-434, February 19, 2014, 160 pgs.					
Lit. 42; IPR 4	Adaptix, Inc. v. Sony Mobile Communications, Inc. et al., Plaintiff's Disclosure of Asserted Claims and Infringement Contentions, with Exhibit A, Civil Action No. 6:13-cv-442, February 19, 2014, 107 pgs.					
Lit. 42; IPR 3	Adaptix, Inc. v. Sony Mobile Communications, Inc. et al., Plaintiff's Disclosure of Asserted Claims and Infringement Contentions, with Exhibit B, Civil Action No. 6:13-cv-442, February 19, 2014, 159 pgs.					
IPR 1	Blackberry Corporation v. Adaptix, Inc., Petition for <i>Inter Partes</i> Review of U.S. Patent No. 6,947,748, with Exhibits, IPR2014-01406, P.T.A.B., August 28, 2014, 1422 pgs.					
IPR 1	Blackberry Corporation v. Adaptix, Inc., Declaration of Zygmunt J. Haas, Ph.D. Under 37 C.F.R. § 1.68 regarding U.S. Patent No. 6,947,748, IPR2014-01406, P.T.A.B., August 26, 2014, 95 pgs.					
IPR 2	Blackberry Corporation v. Adaptix, Inc., Petition for <i>Inter Partes</i> Review of U.S. Patent No. 7,454,212, with Exhibits, IPR2014-01408, P.T.A.B., August 28, 2014, 1264 pgs.					
IPR 2	Blackberry Corporation v. Adaptix, Inc., Declaration of Zygmunt J. Haas, Ph.D. Under 37 C.F.R. § 1.68 regarding U.S. Patent No. 7,454,212, IPR2014-01408, P.T.A.B., August 26, 2014, 123 pgs.					
IPR 3	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Petition for <i>Inter Partes</i> Review of U.S. Patent No. 6,947,748, with Exhibits, IPR2014-01524, P.T.A.B., September 19, 2014, 1535 pgs.					

IPR 3	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Declaration of Professor Robert Akl, D.Sc., IPR2014-01524, P.T.A.B., September 19, 2014, 107 pgs.
IPR 3	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., (Corrected Exhibit 1009), Declaration of Professor Robert Akl, D.Sc., IPR2014-01524, P.T.A.B., September 19, 2014, 107 pgs.
IPR 3	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Replacement Petition for <i>Inter Partes</i> Review of U.S. Patent No. 6,947,748, IPR2014-01524, P.T.A.B., September 19, 2014, 65 pgs.
IPR 3	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Corrected Petition for <i>Inter Partes</i> Review of U.S. Patent No. 6,947,748, with Corrected Exhibit 1009, IPR2014-01524, P.T.A.B., October 3, 2014, 173 pgs.
IPR 4	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Petition for <i>Inter Partes</i> Review of U.S. Patent No. 7,454,212, with Exhibits, IPR2014-01525, P.T.A.B., September 19, 2014, 1225 pgs.
IPR 4	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Declaration of Professor Robert Akl, D.Sc., IPR2014-01525, P.T.A.B., September 19, 2014, 100 pgs.
IPR 4	Sony Mobile Communications (USA) Inc. v. Adaptix, Inc., Corrected Petition for <i>Inter Partes</i> Review of U.S. Patent No. 7,454,212, IPR2014-01525, P.T.A.B., October 3, 2014, 67 pgs.
JP Lit. 1	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Defendant's (Huawei) Invalidity Contention Brief, August 29, 2014, 11 pgs.
JP Lit. 2	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 31440 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Defendant's (ZTE) Invalidity Contention Brief, September 2, 2014, 50 pgs.
JP Lit. 2	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 31440 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, List of Prior Art/Non-Prior Art Documents cited in the Defendant's Invalidity Contention Brief, September 2, 2014, 2 pgs.
JP Lit. 15	Adaptix, Inc. v. Fujitsu, Japanese Litigation Case No. 29107 regarding corresponding Japanese Patent No. 5606611, Plaintiff's (Adaptix) Complaint, November 4, 2014, 60 pgs.
JP Lit. 15	Adaptix, Inc. v. Fujitsu, Japanese Litigation Case No. 29107 regarding corresponding Japanese Patent No. 5606611, List of Prior Art/Non-Prior Art Documents cited in Plaintiff's (Adaptix) Complaint, November 4, 2014, 4 pgs.
JP Trial 9	NEC v. Adaptix, Inc., Japanese Invalidation Trial No. 2014-800156 regarding corresponding Japanese Patent No. 5435681, Demand filed by NEC, September 12, 2014, 31 pgs.
IPRs 3-4	Chuang and Sollenberger, "Spectrum Resource Allocation for Wireless Packet Access with Application to Advanced Cellular Internet Service," IEEE Journal on Selected Areas in Communications, Vol. 16, No. 6, Pages 820-829, August 1998, 10 pgs.
JP Lit. 15	Electronics Information Communication Society of Japan, "IEICE Dictionary of Electronics, Information and Communication Terms," Corona Publishing Co., LTD., Pages 132-133, July 9, 1999, 3 pgs.
IPRs 1-2	ETSI ETS 300 744, "Digital Video Broadcasting (DVB); Framing structure, channel coding and modulation for digital Terrestrial television (DVB-T), March 1997, 48 pages.
IPRs 3-4	ETSI SMG meeting No. 24, Concept Group Beta, "OFDMA (Orthogonal Frequency Division Multiplex Access) System Description Performance Evaluation," Tdoc/SMG 896/97, Madrid, Spain, December 15th-19th 1997, 71 pgs.
IPRs 3-4	Excerpts from IEEE Communications Magazine, Vol. 38 No. 7, including "CDMA/HDR: A Bandwidth-Efficient High-Speed Wireless Data Service for Nomadic Users" by Paul Bender et al. and "Beyond 3G: Wideband Wireless Data Access Based on OFDM and Dynamic Packet Assignment" by Chuang and Sollenberger, July 2000, 22 pgs.
JP Lit. 2	Shinmura, "Kojien," 5th Edition, Iwanami Publishing Co., LTD., Pages 1945 and 2355, November 11, 1998, 4 pgs.
IPRs 3-4	Takamura et al., "Field Trial Results of a Band Hopping OFDM System," Sony Corporation, Shingawa-ku, Tokyo, Japan, IEEE Vehicular Technology Conference, September 1999, 6 pgs.
EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/286,884	05/23/2014	Xiaodong Li	176.0006-11000	2686
22882	7590	10/24/2014		
MARTIN & FERRARO, LLP 1557 LAKE O'PINES STREET, NE HARTVILLE, OH 44632			EXAMINER DUONG, FRANK	
			ART UNIT 2474	PAPER NUMBER
			MAIL DATE 10/24/2014	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Rule 312 Communication	Application No. 14/286,884	Applicant(s) LI ET AL.
	Examiner FRANK DUONG	Art Unit 2474

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

1. ☒ The amendment filed on 16 October 2014 under 37 CFR 1.312 has been considered, and has been:

a) ☒ entered.

b) ☐ entered as directed to matters of form not affecting the scope of the invention.

c) ☐ disapproved because the amendment was filed after the payment of the issue fee.

Any amendment filed after the date the issue fee is paid must be accompanied by a petition under 37 CFR 1.313(c)(1) and the required fee to withdraw the application from issue.

d) ☐ disapproved. See explanation below.

e) ☐ entered in part. See explanation below.

Note: The information disclosure statement (IDS) filed 10/07/14 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been considered and placed in the application file. An attachment hereon is the considered IDS.

	/FRANK DUONG/ Primary Examiner, Art Unit 2474
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	Confirmation No.: 2686
Xiaodong Li et al.)	
Serial No.: 14/286,884	)	Group Art Unit: 2474
Filed: May 23, 2014	)	Examiner: Frank Duong
For: MULTI-CARRIER	)	Allowed: October 7, 2014
COMMUNICATIONS WITH)	
ADAPTIVE CLUSTER)	
CONFIGURATION AND)	
SWITCHING)	

MS ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

AMENDMENT AFTER ALLOWANCE

Pursuant to 37 C.F.R. § 1.312 and subject to the approval of the Commissioner, and without withdrawing the case from issue, kindly amend the subject application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Confirmation No.: 2686
Xiaodong Li et al.)	
Serial No.: 14/286,884	)	Group Art Unit: 2474
Filed: May 23, 2014	)	Examiner: Frank Duong
For: MULTI-CARRIER	)	Allowed: October 7, 2014
COMMUNICATIONS WITH)	
ADAPTIVE CLUSTER)	
CONFIGURATION AND)	
SWITCHING)	

MS ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

AMENDMENT AFTER ALLOWANCE

Pursuant to 37 C.F.R. § 1.312 and subject to the approval of the Commissioner, and without withdrawing the case from issue, kindly amend the subject application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks begin on page 7 of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of allocating sets of subcarriers, each of the sets of subcarriers including a plurality of subcarriers, by a base station which communicates with a plurality of subscribers using an orthogonal frequency-division multiple access (OFDMA) system, the method comprising:
allocating to a first subscriber a first set of subcarriers to be used for a first data transmission to the first subscriber, the allocated first set of subcarriers including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers being disjoint in frequency from another subcarrier of the plurality of subcarriers to obtain frequency diversity; and
allocating to a second subscriber a second set of subcarriers to be used for a second data transmission to the second subscriber, the second data transmission to occur simultaneously with the first data transmission to the first subscriber using the allocated first set of subcarriers, the allocated second subcarriers including only consecutive subcarriers.
2. (original) The method of claim 1, wherein the allocation of the first set of subcarriers is identified by a first identification provided from the base station to the first subscriber.
3. (original) The method of claim 2, wherein the first identification includes a modulation and coding format to be used by the first subscriber for the first data transmission to the first subscriber.
4. (original) The method of claim 1, wherein the allocation of the second set of subcarriers is identified by a second identification provided from the base station to the second subscriber.
5. (original) The method of claim 1, wherein the allocated first set of subcarriers includes two or more subcarriers spread farther apart than a coherence

- bandwidth of a respective channel.
6. (original) The method of claim 1, wherein the allocated first set of subcarriers is specified by a cluster index.
 7. (original) The method of claim 1, wherein the first data transmission to the first subscriber includes channel coding across the plurality of subcarriers of the allocated first set of subcarriers.
 8. (currently amended) A base station that communicates with a plurality of subscribers and allocates sets of subcarriers, each of the sets of subcarriers including a plurality of subcarriers, using an orthogonal frequency-division multiple access (OFDMA) system, the base station comprising:
 - a controller configured to:
 - allocate to a first subscriber a first set of subcarriers to be used for a first data transmission to a first subscriber, an allocated first set of subcarriers including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers being disjoint in frequency from another subcarrier of the plurality of subcarriers to obtain frequency diversity; and
 - allocate to a second subscriber a second set of subcarriers to be used for a second data transmission to a second subscriber, the second data transmission to occur simultaneously with the first data transmission to the first subscriber using the allocated first set of subcarriers, an allocated second set of subcarriers including only consecutive subcarriers.
 9. (original) The base station of claim 8, further comprising:
 - receive/transmit circuitry configured to:
 - provide the first subscriber with a first identification identifying the allocated first set of subcarriers.
 10. (original) The base station of claim 9, wherein the first identification includes a modulation and coding format to be used by the first subscriber for the first data transmission to the first subscriber.
 11. (original) The base station of claim 8, further comprising:
 - receive/transmit circuitry configured to:

provide the second subscriber with a second identification
identifying the allocated second set of subcarriers.

12. (original) The base station of claim 8, wherein the allocated first set of subcarriers includes two or more subcarriers spread farther apart than a coherence bandwidth of a respective channel.
13. (original) The base station of claim 8, wherein the allocated first set of subcarriers is specified by a cluster index.
14. (original) The base station of claim 8, wherein the first data transmission to the first subscriber includes channel coding across the plurality of subcarriers of the allocated first set of subcarriers.
15. (currently amended) A method of allocating a plurality of sets of subcarriers, each of which includes a plurality of subcarriers, from a base station to a plurality of subscribers using an orthogonal frequency-division multiple access (OFDMA) system, the method comprising:
 - allocating a first set of subcarriers to be used for a first data transmission by providing a first identification identifying the first set of subcarriers to be allocated to a first subscriber in each of a first time slot and a second time slot, at least one subcarrier of the first set of subcarriers allocated in the second time slot being different from all subcarriers belonging to the first set of subcarriers allocated in the first time slot, at least two subcarriers of the first set of subcarriers allocated in the first time slot being disjoint and at least two subcarriers of the first set of subcarriers allocated in the second time slot being disjoint; and
 - allocating a second subscriber a second set of subcarriers to be used for a second data transmission, the allocated second set of subcarriers including only consecutive subcarriers.
16. (original) The method of claim 15, wherein the second set of subcarriers is identified by a second identification provided from the base station to the second subscriber.
17. (original) The method of claim 15, wherein the allocated first set of subcarriers

- includes two or more subcarriers spread farther apart than a coherence bandwidth of a respective channel.
18. (original) The method of claim 15, wherein the first identification includes a modulation and coding format to be used by the first subscriber for the first data transmission to the first subscriber.
 19. (original) The method of claim 15, wherein the allocated first set of subcarriers is specified by a cluster index.
 20. (original) The method of claim 15, wherein the first data transmission to the first subscriber includes channel coding across the allocated first set of subcarriers.
 21. (currently amended) A base station that allocates a plurality of sets of subcarriers, each of which includes a plurality of subcarriers, to a plurality of subscribers using an orthogonal frequency-division multiple access (OFDMA) system, the base station comprising:
 - a controller configured to:
 - allocate a first set of subcarriers to be used for a first data transmission by providing a first identification identifying the first set of subcarriers to be allocated to a first subscriber in each of a first time slot and a second time slot, at least one subcarrier of the first set of subcarriers allocated in the second time slot being different from all subcarriers belonging to the first set of subcarriers allocated in the first time slot, at least two subcarriers of the first set of subcarriers allocated in the first time slot being disjoint and at least two subcarriers of the first set of subcarriers allocated in the second time slot being disjoint; and allocate a second subscriber a second set of subcarriers to be used for a second data transmission, an allocated second set of subcarriers including only consecutive subcarriers.
 22. (original) The base station of claim 21, which provides a second identification to the second subscriber for identifying the second set of subcarriers.
 23. (original) The base station of claim 21, wherein an allocated first set of subcarriers includes two or more subcarriers spread farther apart than a

- coherence bandwidth of a respective channel.
24. (original) The base station of claim 21, wherein the first identification includes a modulation and coding format to be used by the first subscriber for the first data transmission to the first subscriber.
 25. (original) The base station of claim 21, wherein an allocated first set of subcarriers is specified by a cluster index.
 26. (original) The base station of claim 21, wherein the first data transmission to the first subscriber includes channel coding across an allocated first set of subcarriers.

REMARKS

The above-identified application was allowed in the Notice of Allowance mailed October 7, 2014. The issue fee has not been paid.

Subsequent to the receipt of the Notice of Allowance, applicant noted a minor error by the omission of the word "multiple" in the phrase corresponding to the acronym "OFDMA" in independent claims 1, 8, 15, and 21. The requested amendment is submitted to correct this minor error in independent claims 1, 8, 15, and 21. In doing so, independent claims 1, 8, 15, and 21 have been amended to correctly recite "orthogonal frequency-division multiple access (OFDMA)," rather than "orthogonal frequency-division access (OFDMA)."

Each of the requested amendments is fully supported by the specification and drawings, will not require an additional search, and does not raise new issues. Therefore, applicant respectfully requests that this Amendment be entered and the requested changes made.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this reply, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-1068.

Respectfully submitted,

MARTIN & FERRARO, LLP

Date: October 16, 2014

By: /Alfred Y. Chu/
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NOTICE OF ALLOWANCE AND FEE(S) DUE

22882 7590 10/07/2014
MARTIN & FERRARO, LLP
1557 LAKE O'PINES STREET, NE
HARTVILLE, OH 44632

EXAMINER

DUONG, FRANK

ART UNIT

PAPER NUMBER

2474

DATE MAILED: 10/07/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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14/286,884

05/23/2014

Xiaodong Li

176.0006-11000

2686

TITLE OF INVENTION: MULTI-CARRIER COMMUNICATIONS WITH ADAPTIVE CLUSTER CONFIGURATION AND SWITCHING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	01/07/2015

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
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or Fax **(571)-273-2885**

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/286,884	05/23/2014	Xiaodong Li	176.0006-11000	2686

TITLE OF INVENTION: MULTI-CARRIER COMMUNICATIONS WITH ADAPTIVE CLUSTER CONFIGURATION AND SWITCHING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$960	\$0	\$0	\$960	01/07/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
DUONG, FRANK	2474	370-329000

<p>1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).</p> <p><input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.</p> <p><input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.</p>	<p>2. For printing on the patent front page, list</p> <p>(1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____</p> <p>(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____</p> <p>3 _____</p>
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3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

<p>4a. The following fee(s) are submitted:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)</p> <p><input type="checkbox"/> A check is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
- ☐ Applicant asserting small entity status. See 37 CFR 1.27
- ☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/286,884	05/23/2014	Xiaodong Li	176.0006-11000	2686

22882 7590 10/07/2014
MARTIN & FERRARO, LLP
1557 LAKE O'PINES STREET, NE
HARTVILLE, OH 44632

EXAMINER

DUONG, FRANK

ART UNIT	PAPER NUMBER
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2474

DATE MAILED: 10/07/2014

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/286,884	Applicant(s) LI ET AL.	
	Examiner FRANK DUONG	Art Unit 2474	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to communications dated 08/13/2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-26. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some *c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Examiner's Amendment/Comment |
| 2. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| 3. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. <input type="checkbox"/> Other _____ |
| 4. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ | |

/FRANK DUONG/
Primary Examiner, Art Unit 2474

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

1. This Office Action is a response to communications dated 08/13/2014. Claims 1-26 are still pending in the application.

Information Disclosure Statement

2. The information disclosure statement filed 08/13/2014 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been considered and placed in the application file.

Terminal Disclaimer

3. The terminal disclaimer filed on 08/13/2014 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. patent application 14/286,780 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

4. Claims 1-26 are allowed.

5. The following is an examiner's statement of reasons for allowance: The prior art of record, considered individually or in combination, appears to fail to fairly show or

suggest these novel and unobvious limitations in a manner as recited in the claims:

"allocating to a first subscriber a first set of subcarriers to be used for a first data transmission to the first subscriber, the allocated first set of subcarriers including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers being disjoint in frequency from another subcarrier of the plurality of subcarriers to obtain frequency diversity; and allocating to a second subscriber a second set of subcarriers to be used for a second data transmission to the second subscriber, the second data transmission to occur simultaneously with the first data transmission to the first subscriber using the allocated first set of subcarriers, the allocated second subcarriers including only consecutive subcarriers."

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK DUONG whose telephone number is (571)272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Thier can be reached on 571-272-2832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/FRANK DUONG/
Primary Examiner, Art Unit 2474
September 30, 2014

Substitute for FORM PTO-1449		Attorney Docket Number 176.0006-11000		Customer No. 22882		
INFORMATION DISCLOSURE STATEMENT IN AN APPLICATION		Applicant Xiaodong Li et al.		Application Number 14/286,884		
(Use several sheets if necessary) Sheet <u>1</u> of <u>1</u>		Filing Date May 23, 2014		Group Art Unit 2474		Examiner F. Duong
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	2014/0269396	9/2014	Li et al.			
	2014/0269572	9/2014	Li et al.			
	2014/0269609	9/2014	Li et al.			
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION (YES/NO)
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
Lits. 24-28	5:13-cv-1776, -1777, -1778, -1844, -2023, Expert Report of Michael Caloyannides Concerning Rebuttal to Expert Report of Thomas Fuja Regarding Validity of U.S. Patent Nos. 6,947,748 and 7,454,212 filed by Plaintiff (Adaptix, Inc.), Non-Confidential Redacted Version, N.D. Cal., August 27, 2014, 157 pgs.					
Lits. 3, 5, and 11	6:12-cv-17, -20, -120, Expert Report of Thomas Fuja Regarding Invalidity of U.S. Patent Nos. 6,947,748 and 7,454,212 filed by Defendants (AT&T Mobility LLC et al.), Non-Confidential Redacted Version, E.D. Tex., July 7, 2014, 500 pgs.					
Lits. 4, 7-8, 15, and 17-18	6:12-cv-22, -122, -123, -369; 6:13-cv-49, -50, Expert Report of Anthony Acampora Regarding Invalidity of U.S. Patent Nos. 6,870,808; 6,904,283; and 7,146,172 filed by Defendants (Ericsson Inc. et al.), Non-Confidential Redacted by Ericsson ALU on August, 12, 2014, E.D. Tex., July 28, 2014, 886 pgs.					
Lits. 4, 7-8, 15, and 17-18	6:12-cv-22, -122, -123, -369; 6:13-cv-49, -50, Rebuttal Expert Report of Jonathan Wells Regarding Validity of U.S. Patent Nos. 6,870,808; 6,904,283; and 7,146,172 filed by Plaintiff (Adaptix, Inc.), Non-Confidential Redacted Version, E.D. Tex., September 9, 2014, 182 pgs.					
EXAMINER		DATE CONSIDERED				
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.						

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Confirmation No.: 2686
Xiaodong Li et al.)	
Serial No.: 14/286,884	)	Group Art Unit: 2474
Filed: May 23, 2014	)	Examiner: Frank Duong
For: MULTI-CARRIER)	
COMMUNICATIONS WITH)	
ADAPTIVE CLUSTER)	
CONFIGURATION AND)	
SWITCHING)	

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

REPLY

In reply to the Office Action dated July 9, 2014, Applicant submits the following remarks:

Remarks begin on page 2 of this paper.

REMARKS

In the Office Action, the Examiner (at page 3, line 17 to page 6, line 2) provisionally rejected claims 1-26 (including independent claims 1, 8, 15, and 21) under the judicially created doctrine of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22 of co-pending Application No. 14/286,780. Applicant is submitting concurrently with this Reply a Terminal Disclaimer of the terminal part of any patent granted in the present application which would extend beyond the expiration of Application No. 14/286,780. Applicant submits that the obviousness-type double patenting rejection has been overcome.

The Examiner (at page 6, line 3 to page 8, line 7 of the Office Action) rejected claims 1-26 (including independent claims 1, 8, 15, and 21) under the judicially created doctrine of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 8,767,702. Applicant is submitting concurrently with this Reply a Terminal Disclaimer of the terminal part of any patent granted in the present application which would extend beyond the expiration of U.S. Patent No. 8,767,702. Applicant submits that the obviousness-type double patenting rejection has been overcome.

Applicant submits that independent claims 1, 8, 15, and 21 are patentable and that dependent claims 2-7, 9-14, 16-20, and 23-26, dependent from independent claims 1, 8, 15, or 21, or claims dependent therefrom, are patentable at least due to their dependency from an allowable independent claim.

Therefore, it is requested that the Examiner reconsider the outstanding rejections in view of the preceding comments. Issuance of a timely Notice of Allowance of the claims is earnestly solicited.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this reply, such extension is hereby respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 50-1068.

Respectfully submitted,

MARTIN & FERRARO, LLP

Date: August 13, 2014

By: /Alfred Y. Chu/
Alfred Y. Chu
Registration No. 62,317

1557 Lake O'Pines Street, NE
Hartville, Ohio 44632
Telephone: (330) 877-0700
Facsimile: (330) 877-2030

Substitute for FORM PTO-1449			Attorney Docket Number 176.0006-11000		Customer No. 22882	
INFORMATION DISCLOSURE CITATION IN AN APPLICATION			Applicant Xiaodong Li et al.		Application Number 14/286,884	
(Use several sheets if necessary) Sheet <u>1</u> of <u>4</u>			Filing Date May 23, 2014		Group Art Unit 2474	Examiner F. Duong
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	6,009,087	12/1999	Uchida et al.			
	6,347,091	2/2002	Wallentin et al.			
	6,405,043	6/2002	Jensen et al.			
	6,560,209	5/2003	Alamouti et al.			
	6,952,454	10/2005	Jalali et al.			
	8,738,020	5/2014	Li et al.			
	8,743,729	6/2014	Li et al.			
	8,750,238	6/2014	Li et al.			
	8,760,992	6/2014	Xing et al.			
FOREIGN PATENT DOCUMENTS						
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION (YES/NO)
* JP Lits. 4-5 and 7-8; JP Trial 8	DE 198 00 953 C1	7/1999	Germany			YES
	EP 1 043 861 A1	10/2000	Europe			N/A
JP Lit. 1	JP 10-145854 A	5/1998	Japan			ABSTRACT ONLY
	JP 10-247955	9/1998	Japan			YES
JP Lit. 1	JP 11-196457 A	7/1999	Japan			ABSTRACT ONLY
* JP Lits. 1-2; JP Trials 3, 5, and 7	JP 11-504169 A	4/1999	Japan			ABSTRACT ONLY
* JP Lits. 1-2, 5, and 7-8; JP Trials 1 and 3-6	JP 11-508417	7/1999	Japan			ABSTRACT ONLY
* JP Lits. 7-8	JP 2000-49663	2/2000	Japan			ABSTRACT ONLY
JP Lit. 5	JP 2000-78062	3/2000	Japan			YES
JP Lit. 5	JP 2000-216842 A	8/2000	Japan			ABSTRACT ONLY
	JP 2000-286822 A	10/2000	Japan			ABSTRACT ONLY
JP Lit. 5	JP 2000-341236 A	12/2000	Japan			ABSTRACT ONLY

INFORMATION DISCLOSURE STATEMENT

Application No.: 14/286,884

	JP 2001-238269 A	8/2001	Japan			YES
* JP Lit. 1; JP Trial 7	JP 2003-530010	10/2003	Japan			ABSTRACT ONLY
* JP Lit. 1; JP Trial 3	JP 2013-55677 A	3/2013	Japan			ABSTRACT ONLY
* JP Lits. 1-3; JP Trials 1, 3, and 7	JP 3980478 B	8/2004	Japan			ABSTRACT ONLY
* JP Lits. 4- 12; JP Trial 8	JP 4201595 B	1/2005	Japan			ABSTRACT ONLY
JP Lit. 5	WO 96/00470 A1	1/1996	WIPO			ABSTRACT ONLY
* JP Lits. 1 and 4; JP Trials 7-8	WO 98/35463	8/1998	WIPO			N/A
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
* JP Lit. 1; JP Trial 7	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Preparatory Document 7 filed by Plaintiff (Adaptix) dated December 25, 2013, 74 pgs.					
* JP Lit. 1; JP Trial 7	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Preparatory Document 8 filed by Plaintiff (Adaptix) dated December 25, 2013, 7 pgs.					
JP Lit. 1	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Plaintiff's (Adaptix) Response to Defendant's (Huawei) Invalidity Contention Brief, July 11, 2014, 13 pgs.					
JP Lit. 1	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Defendant's (Huawei) Invalidity Contention Brief, July 11, 2014, 15 pgs.					
JP Lit. 1	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 28418 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, List of Non-Prior Art/Prior Art Documents cited in Defendant's (Huawei) Invalidity Contention Brief, July 11, 2014, 2 pgs.					
JP Lit. 2	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 31440 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, Plaintiff's (Adaptix) Invalidity Contention Brief, July 18, 2014, 43 pgs.					
JP Lit. 2	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 31440 regarding corresponding Japanese Patent Nos. 3980478 and 4213466, List of Supporting Documents cited in Plaintiff's (Adaptix) Invalidity Contention Brief, July 18, 2014, 2 pgs.					
JP Lit. 3	Adaptix Inc. v. Ericsson Japan, Japanese Litigation No. 1149 regarding corresponding Japanese Patent No. 3980478 and 4213466, Defendant's (Ericsson) Request for Dismissal Alleging Plaintiff's Failure to Make Infringement and Invalidity Contentions, July 25, 2014, 35 pgs.					
JP Lit. 3	Adaptix Inc. v. Ericsson Japan, Japanese Litigation No. 1149 regarding corresponding Japanese Patent No. 3980478 and 4213466, List of Prior Art and Non-Prior Art Documents cited in Defendant's (Ericsson) Request for Dismissal, July 25, 2014, 2 pgs.					
JP Lit. 4	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 17915 regarding corresponding Japanese Patent No. 4201595, Defendant's (Huawei) Invalidity Contention Brief, May 30, 2014, 41 pgs.					
JP Lit. 4	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 17915 regarding corresponding Japanese Patent No. 4201595, List of Prior Art/Non-Prior Art Documents cited in Invalidity Contention Brief submitted by Defendant (Huawei), May 30, 2014, 2 pgs.					
JP Lit. 4	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 17915 regarding corresponding Japanese Patent No. 4201595, Plaintiff's (Adaptix) Rebuttal to Defendant's (Huawei) Invalidity Contention Brief, July 28, 2014, 23 pgs.					
JP Lit. 4	Adaptix Inc. v. Huawei Japan, Japanese Litigation Case No. 17915 regarding corresponding Japanese Patent No. 4201595, List of Non-Prior Art Documents cited in Plaintiff's (Adaptix) Rebuttal and Infringement Contention Brief, July 28, 2014, 6 pgs.					
JP Lit. 5	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 19919 regarding corresponding Japanese Patent No. 4201595, Plaintiff's (Adaptix) Response to Defendant's (ZTE) Invalidity Contention Brief, May 30, 2014, 21 pgs.					

INFORMATION DISCLOSURE STATEMENT

Application No.: 14/286,884

JP Lit. 5	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 19919 regarding corresponding Japanese Patent No. 4201595, Defendant's (ZTE) Invalidity Contention Brief, May 30, 2014, 88 pgs.
JP Lit. 5	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 19919 regarding corresponding Japanese Patent No. 4201595, List of Prior Art/Non-Prior Art Documents cited in Invalidity Contention Brief submitted by Defendant (ZTE), May 30, 2014, 2 pgs.
JP Lit. 5	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 19919 regarding corresponding Japanese Patent No. 4201595, Plaintiff's (Adaptix) Rebuttal to Defendant's (ZTE) Invalidity Contention Brief, July 31, 2014, 55 pgs.
JP Lit. 5	Adaptix Inc. v. ZTE Japan, Japanese Litigation Case No. 19919 regarding corresponding Japanese Patent No. 4201595, List of Supporting Documents cited in Plaintiff's (Adaptix) Rebuttal and Infringement Contention Brief, July 31, 2014, 5 pgs.
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JP Lit. 3	Shogakukan, "New Shogakukan Random House English-Japanese Dictionary," Pages 1000-1001 and 1737, January 10, 1999, 5 pgs.
EXAMINER	DATE CONSIDERED
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.	



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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14/286,884

05/23/2014

Xiaodong Li

176.0006-11000

2686

22882 7590 07/09/2014

MARTIN & FERRARO, LLP
1557 LAKE O'PINES STREET, NE
HARTVILLE, OH 44632

EXAMINER

DUONG, FRANK

ART UNIT

PAPER NUMBER

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MAIL DATE

DELIVERY MODE

07/09/2014

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

1. This Office Action is a response to communications dated 05/23/2014. Claims 1-26 are pending in the application.

Information Disclosure Statement

2. The information disclosure statement filed 05/23/2014 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been considered and placed in the application file.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the claims at issue are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir.

1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the reference application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The USPTO internet Web site contains terminal disclaimer forms which may be used. Please visit <http://www.uspto.gov/forms/>. The filing date of the application will determine what form should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to <http://www.uspto.gov/patents/process/file/efs/guidance/eTD-info-I.jsp>.

3. Claims 1-26 are provisionally rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-22 of copending Application No. 14/286,780. Although the claims at issue are not identical, they are not patentably distinct from each other because of the following rationales.

Instant Application Claim 1 Claims	'780 Application Claim 1 Claims
A method of allocating sets of subcarriers,	A method of allocating clusters, each of

each of the sets of subcarriers including a plurality of subcarriers, by a base station which communicates with a plurality of subscribers using an orthogonal frequency-division access (OFDMA) system, the method comprising:	the clusters including a plurality of subcarriers, by a base station which communicates with a plurality of subscribers using an orthogonal frequency-division access (OFDMA) system in a cell, the method comprising:
allocating to a first subscriber a first set of subcarriers to be used for a first data transmission to the first subscriber, the allocated first set of subcarriers including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers being disjoint in frequency from another subcarrier of the plurality of subcarriers to obtain frequency diversity; and	allocating to a first subscriber a diversity cluster to be used for a first data transmission to the first subscriber by providing a first cluster identification, the allocated diversity cluster including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers being disjoint from another subcarrier of the plurality of subcarriers, the first cluster identification determining intervals between a plurality of disjoint subcarriers; and
allocating to a second subscriber a second set of subcarriers to be used for a second data transmission to the second subscriber, the second data transmission	allocating to a second subscriber a coherence cluster to be used for a second data transmission to the second subscriber by providing a second cluster

to occur simultaneously with the first data transmission to the first subscriber using the allocated first set of subcarriers, the allocated second subcarriers including only consecutive subcarriers.	identification , the second data transmission to occur simultaneously with the first data transmission to the first subscriber using the allocated diversity cluster, the allocated coherence cluster including only consecutive subcarriers.
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Rationales: From the above claim comparison, one can see that claim 1 of the instant application claims variously the same limitations/steps as that of claim 1 of the '278 application. There are some mere differences between the claims in rewording and omitting certain limitations depicted in the italic, strikethrough words. Such difference is deemed obvious to those skilled in the art of claim drafting to seek a well-rounded protection for a disclosed invention. In addition, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. *In re Karlson*, 136 USPQ 184(CCPA). Also note *Ex Parte Rainu*, 168 USPQ 375 (Bd. App. 1969); omission of a reference whose function is not needed would be an obvious variation.

Dependent claims 2-7 are deemed obvious over dependent claims 2-6 of the '278 application for the same rationales discussed above.

Group claims 8-14, 15-20 and 21-26 are deemed obvious over group claims 7-12, 13-17 and 18-22 of the '278 application for the same rationales discussed above.

This is a provisional nonstatutory double patenting rejection because the patentably indistinct claims have not in fact been patented.

4. Claims 1-26 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-30 of U.S. Patent No. 8,767,702. Although the claims at issue are not identical, they are not patentably distinct from each other because of the following rationales.

Instant Application Claim 1 Claims	'702 Patent Claim 1 Claims
A method of allocating sets of subcarriers, each of the sets of subcarriers including a plurality of subcarriers, by a base station which communicates with a plurality of subscribers using an orthogonal frequency-division access (OFDMA) system, the method comprising:	A method of allocating clusters, each of the clusters comprising a plurality of subcarriers, by a base station which communicates with a plurality of subscriber stations using multiple access technology in a cell, the method comprising:
allocating to a first subscriber a first set of subcarriers to be used for a first data transmission to the first subscriber, the allocated first set of subcarriers including a plurality of subcarriers at least one subcarrier of the plurality of subcarriers	allocating to a first subscriber station a diversity cluster to be used for a first data transmission to the first subscriber station by <u>providing a first cluster identification</u> , the allocated diversity cluster including a plurality of disjoint subcarriers; and

being disjoint in frequency from another subcarrier of the plurality of subcarriers to obtain frequency diversity; and	
allocating to a second subscriber a second set of subcarriers to be used for a second data transmission to the second subscriber, the second data transmission to occur simultaneously with the first data transmission to the first subscriber using the allocated first set of subcarriers, the allocated second subcarriers including only consecutive subcarriers.	allocating to a second subscriber station a coherence cluster to be used for a second data transmission to the second subscriber station by providing a second cluster identification, the second data transmission to occur during the same time period as the first data transmission to the first subscriber station using the allocated diversity cluster, the allocated coherence cluster including only consecutive subcarriers.

Rationales: From the above claim comparison, one can see that claim 1 of the instant application claims variously the same limitations/steps as that of claim 1 of the '702 patent. There are some mere differences between the claims in rewording and omitting certain limitations depicted in the italic, strikethrough words. Such difference is deemed obvious to those skilled in the art of claim drafting to seek a well-rounded protection for a disclosed invention. In addition, it has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the

same function as before. *In re Karlson*, 136 USPQ 184(CCPA). Also note *Ex Parte Rainu*, 168 USPQ 375 (Bd. App. 1969); omission of a reference whose function is not needed would be an obvious variation.

Dependent claims 2-7 are deemed obvious over dependent claims 2-20 of the '702 patent for the same rationales discussed above.

Group claims 8-14, 15-20 and 21-26 are deemed obvious over group claims 1-20 and 21-30 of the '702 patent for the same rationales discussed above.

Conclusion

5. The prior/related art made of record and not relied upon is considered pertinent to applicant's disclosure.

Li et al (US 8,743,717).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRANK DUONG whose telephone number is (571)272-3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Thier can be reached on 571-272-2832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

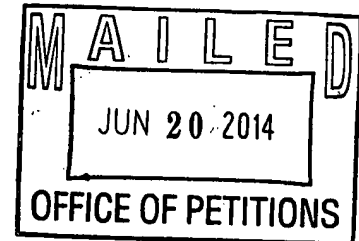
/FRANK DUONG/
Primary Examiner, Art Unit 2474
July 8, 2014



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Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 14/286,884
<p>1. THE REQUEST FILED <u>May 23, 2014</u> IS GRANTED.</p> <p>The above-identified application has met the requirements for prioritized examination</p> <p>A. <input checked="" type="checkbox"/> for an original nonprovisional application (Track I).</p> <p>B. <input type="checkbox"/> for an application undergoing continued examination (RCE).</p> <p>2. The above-identified application will undergo prioritized examination. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:</p> <p>A. filing a <u>petition for extension of time</u> to extend the time period for filing a reply;</p> <p>B. filing an <u>amendment to amend the application to contain more than four independent claims, more than thirty total claims</u>, or a multiple dependent claim;</p> <p>C. filing a <u>request for continued examination</u>;</p> <p>D. filing a notice of appeal;</p> <p>E. filing a request for suspension of action;</p> <p>F. mailing of a notice of allowance;</p> <p>G. mailing of a final Office action;</p> <p>H. completion of examination as defined in 37 CFR 41.102; or</p> <p>I. abandonment of the application.</p> <p>Telephone inquiries with regard to this decision should be directed to <u>Michelle R. Eason</u> at (571) 272-4231. In his/her absence, calls may be directed to Brian W. Brown at (571) 272-5338.</p> <p><u>/Michelle R. Eason/</u> (Signature)</p> <p><u>Paralegal Specialist, Office of Petitions</u> (Title)</p>	

**CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION
UNDER 37 CFR 1.102(e) (Page 1 of 1)**

First Named Inventor:	Xiaodong Li	Nonprovisional Application Number (if known):	(Cont. of 13/801,846)
Title of Invention:	MULTI-CARRIER COMMUNICATIONS WITH ADAPTIVE CLUSTER CONFIGURATION AND SWITCHING		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1), the prioritized examination fee set forth in 37 CFR 1.17(c), and if not already paid, the publication fee set forth in 37 CFR 1.18(d) have been filed with the request. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.
2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims.
3. The applicable box is checked below:

I. ☒ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

- i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.
---OR---
(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.
- ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, or the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

- i. A request for continued examination has been filed with, or prior to, this form.
- ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
- iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
- iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
- v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Alfred Y. Chu/	Date May 23, 2014
Name (Print/Typed) Alfred Y. Chu	Practitioner Registration Number 62,317
Note: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.*	
<input checked="" type="checkbox"/> *Total of <u>1</u> forms are submitted.	

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Substitute for FORM PTO-1449			Attorney Docket Number 176.0006-11000		Customer No. 22882	
INFORMATION DISCLOSURE CITATION IN AN APPLICATION			Applicant Xiaodong Li et al.		Application Number (Cont. of 13/801,846)	
(Use several sheets if necessary) Sheet <u>1</u> of <u>48</u>			Filing Date May 23, 2014		Group Art Unit (2474)	
					Examiner (Frank Duong)	
U.S. PATENT DOCUMENTS						
EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
Lits. 1, 4, 7-8, and 17-18	4,355,411	10/1982	Reudink et al.			
Lits. 7-8 and 17-18	4,488,445	12/1984	Aske			
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Lits. 1, 4, and 7-8	5,239,676	8/1993	Strawczynski et al.			
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Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,267,261	11/1993	Blakeney, II et al.			
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Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,444,697	8/1995	Leung et al.			
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INFORMATION DISCLOSURE STATEMENT

Application No.: (Cont. of 13/801,846)

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Lits. 1, 4, 7-8 and 17-18; ITC 1	5,515,378	5/1996	Roy, III et al.			
Lits. 4, 7-8, and 17-18; ITC 1	5,546,090	8/1996	Roy, III et al.			
Lits. 7-8 and 17-18	5,548,582	8/1996	Brajat et al.			
Lits. 1, 4, and 7-8; ITC 1	5,555,268	9/1996	Fattouche et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,577,022	11/1996	Padovani			
Lits. 7-8 and 17-18	5,581,548	12/1996	Ugland et al.			
	5,586,148	12/1996	Furukawa et al.			
ITC 1	5,588,020	12/1996	Schilling			
	5,590,156	12/1996	Carney			
Lits. 4, 7-8, and 17-18; ITC 1	5,592,490	1/1997	Barratt et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,598,417	1/1997	Crisler			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,623,484	4/1997	Muszynski			
Lits. 1, 4, and 7-8	5,634,199	5/1997	Gerlach et al.			
Lits. 4, 7-8, and 17-18; ITC 1	5,642,353	6/1997	Roy, III et al.			
ITC 1	5,687,194	11/1997	Paneth et al.			
Lits. 4, 7-8, and 17-18; ITC 1	5,708,973	1/1998	Ritter			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1; JP Lit. 1; JP Trial 3	5,726,978	3/1998	Frodigh et al.			
Lits. 1, 4, 7-8, and 17-18	5,732,353	3/1998	Haartsen			
Lits. 1, 4, and 7-8; ITC 1	5,734,967	3/1998	Kotzin et al.			
Lits. 1-12, 21-28, and 30	5,764,699	6/1998	Needham et al.			

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ITC 1	5,774,808	6/1998	Sarkioja et al.			
	5,784,363	7/1998	Engstrom et al.			
	5,793,759	8/1998	Rakib et al.			
	5,796,722	8/1998	Kotzin et al.			
ITC 1	5,799,000	8/1998	Hoole			
Lits. 4, 7-8, and 17-18	5,819,168	10/1998	Golden et al.			
ITC 1	5,822,372	10/1998	Emami			
Lits. 7-8 and 17-18; ITC 1	5,828,658	10/1998	Ottersten et al.			
	5,838,673	11/1998	Mordechai			
	5,839,074	11/1998	Plehn et al.			
ITC 1	5,848,358	12/1998	Forssen et al.			
Lits. 7-8 and 17-18	5,854,981	12/1998	Wallstedt et al.			
	5,862,487	1/1999	Fuji et al.			
Lits. 1-12, 21-28, and 30; ITC 1	5,867,478	2/1999	Baum et al.			
Lits. 1-12, 21-28, and 30	5,884,145	3/1999	Haartsen			
Lits. 1, 4, 7-8, and 17-18; ITC 1	5,886,988	3/1999	Yun et al.			
ITC 1	5,887,245	3/1999	Lindroth et al.			
	5,887,263	3/1999	Ishii			
Lits. 1, 4, and 7-8; ITC 1	5,909,436	6/1999	Engstrom et al.			
Lits. 7-8	5,912,876	6/1999	H'Mimy			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	5,912,931	6/1999	Matsumoto			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1	5,914,933	6/1999	Cimini et al.			
ITC 1	5,914,946	6/1999	Avidor et al.			
Lits. 1, 4, 7-8, 15, 17-18, and 23-28; ITC 1	5,933,421	8/1999	Alamouti et al.			
ITC 1	5,943,375	8/1999	Veintimilla			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1	5,956,642	9/1999	Larsson et al.			
Lits. 7-8	5,966,644	10/1999	Suzuki			
ITC 1	5,973,642	10/1999	Li et al.			
Lits. 4 and 7-8	5,982,327	11/1999	Vook et al.			
	5,982,760	11/1999	Chen			
	5,991,273	11/1999	Abu-Dayya et al.			
Lits. 4, 7-8, 15, and 17-18	5,991,331	11/1999	Chennakeshu et al.			
Lits. 7-8 and 17-18; ITC 1	6,005,876	12/1999	Cimini, Jr. et al.			

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Lits. 4, 7-8, 15, and 17-18	6,006,075	12/1999	Smith et al.			
Lits. 1-12, 17-18, 21-28, and 30	6,009,332	12/1999	Haartsen			
ITC 1	6,009,553	12/1999	Martinez et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,016,311	1/2000	Gilbert			
Lits. 7-8 and 17-18	6,018,528	1/2000	Gitlin et al.			
Lits. 1, 4, 7-8, and 17-18	6,023,622	2/2000	Plaschke et al.			
Lits. 1, 4, and 7-8; ITC 1	6,026,123	2/2000	Williams			
ITC 1	6,037,898	3/2000	Parish et al.			
Lits. 1-12, 17-18, 21-28, and 30	6,038,450	3/2000	Brink et al.			
Lits. 1, 4, 7-8, 15, and 17-18; ITC 1	6,041,237	3/2000	Farsakh			
Lits. 7-8 and 17-18	6,044,067	3/2000	Suzuki			
Lits 2, 3, 5, 6, 9-12, 21-28 and 30	6,047,189	4/2000	Yun et al.			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1	6,052,594	4/2000	Chuang et al.			
ITC 1	6,061,568	5/2000	Dent			
ITC 1	6,064,339	5/2000	Wax et al.			
ITC 1	6,064,692	5/2000	Chow			
ITC 1	6,064,694	5/2000	Clark et al.			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1	6,067,290	5/2000	Paulraj et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,081,536	6/2000	Gorsuch			
ITC 1	6,085,114	7/2000	Gibbons			
Lits. 1, 4, and 7-8	6,091,717	7/2000	Honkasalo et al.			
	6,091,955	7/2000	Aalto et al.			
Lits. 1, 4, and 7-8; ITC 1	6,108,374	8/2000	Balachandran et al.			
ITC 1	6,108,565	8/2000	Scherzer			
ITC 1	6,111,919	8/2000	Yonge, III			
	6,115,614	9/2000	Furukawa			
	6,119,011	9/2000	Borst et al.			
ITC 1	6,122,260	9/2000	Liu et al.			
Lits. 7-8; ITC 1	6,128,276	10/2000	Agee			
ITC 1	6,131,016	10/2000	Greenstein et al.			

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Lits. 1, 4, and 7-8; ITC 1	6,141,565	10/2000	Feuerstein et al.			
ITC 1	6,141,567	10/2000	Youssefmir et al.			
Lits. 7-8 and 17-18	6,144,652	11/2000	Avidor et al.			
Lits. 7-8 and 17-18	6,144,654	11/2000	Ibanez-Meier et al.			
	6,144,696	11/2000	Shively et al.			
Lits. 7-8 and 17-18; ITC 1	6,144,711	11/2000	Raleigh et al.			
ITC 1	6,154,661	11/2000	Goldburg			
Lits. 7-8	6,160,791	12/2000	Bohnke			
Lits. 2, 3, 5-12, 17-18, 21-28, and 30	6,175,550	1/2001	van Nee			
Lits. 1, 4, 7-8, and 17-18; ITC 1	6,192,026	2/2001	Pollack et al.			
	6,198,928	3/2001	Keurulainen et al.			
Lits. 1, 4, and 7-8	6,208,663	3/2001	Schramm et al.			
Lits. 4, 7-8, 15, and 17-18	6,212,242	4/2001	Smith et al.			
	6,212,388	4/2001	Seo			
	6,215,815	4/2001	Chen et al.			
ITC 1	6,226,320	5/2001	Hakkinen et al.			
	6,246,713	6/2001	Mattisson			
	6,246,881	6/2001	Parantainen et al.			
	6,253,063	6/2001	Cudak et al.			
	6,253,094	6/2001	Schmutz			
Lits. 7-8 and 17-18	6,259,686	7/2001	Blanc et al.			
	6,276,297	8/2001	van den Berg et al.			
	6,281,840	8/2001	Miyoshi et al.			
Lits. 1, 4, and 7-8; ITC 1	6,282,185	8/2001	Hakkinen et al.			
Lits. 1, 4, and 7-8; ITC 1	6,298,092	10/2001	Heath, Jr. et al.			
Lits. 1, 4, and 7-8	6,304,593	10/2001	Alouini et al.			
Lits. 7-8; ITC 1	6,307,851	10/2001	Jung et al.			
	6,314,082	11/2001	Malmgren			
ITC 1	6,327,314	12/2001	Cimini, Jr. et al.			
Lits. 1, 4, and 7-8; ITC 1	6,327,472	12/2001	Westroos et al.			
	6,330,429	12/2001	He			
ITC 1	6,330,460	12/2001	Wong et al.			
	6,334,047	12/2001	Andersson et al.			
Lits. 1-12, 21-28 and 30; ITC 1	6,351,499	2/2002	Paulraj et al.			

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Lits. 1-12, 21-28, and 30	6,351,643	2/2002	Haartsen			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,359,867	3/2002	Vehmas			
Lits. 7-8 and 17-18; ITC 1	6,359,923	3/2002	Agee et al.			
Lits. 1, 4, and 7-8; ITC 1	6,366,195	4/2002	Harel et al.			
ITC 1	6,377,631	4/2002	Raleigh			
ITC 1	6,377,632	4/2002	Paulraj et al.			
Lits. 1-12, 17-18, and 30; ITC 1	6,377,636	4/2002	Paulraj et al.			
	6,388,999	5/2002	Gorsuch et al.			
	6,400,679	6/2002	Suzuki			
Lits. 1-12, 17-18, 21-28, and 30	6,400,699	6/2002	Airy et al.			
Lits. 1, 4, and 7-8	6,404,783	6/2002	Cimini, Jr. et al.			
	6,405,044	6/2002	Smith et al.			
Lits. 1-12, 17-18, 21-28, and 30	6,405,048	6/2002	Haartsen			
	6,411,186	6/2002	Lilleberg et al.			
	6,415,153	7/2002	Liew			
	6,424,836	7/2002	Gil et al.			
	6,430,148	8/2002	Ring			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,434,392	8/2002	Posti			
	6,442,130	8/2002	Jones et al.			
	6,445,916	9/2002	Rahman			
ITC 1	6,449,246	9/2002	Barton et al.			
ITC 1	6,452,981	9/2002	Raleigh et al.			
Lits. 1-12, 17-18, 21-28, and 30	6,463,096	10/2002	Raleigh et al.			
ITC 1	6,463,295	10/2002	Yun			
	6,463,296	10/2002	Esmailzadeh et al.			
	6,470,044	10/2002	Kowalski			
Lits. 7-8 and 17-18; ITC 1	6,473,418	10/2002	Laroia et al.			
Lits. 1, 4, and 7-8; ITC 1	6,473,467	10/2002	Wallace et al.			
ITC 1	6,477,158	11/2002	Take			
Lits. 1, 4, and 7-8	6,487,253	11/2002	Jones, IV et al.			
	6,493,331	12/2002	Walton et al.			
Lits. 1, 4, and 7-8	6,496,490	12/2002	Andrews et al.			
	6,501,785	12/2002	Chang et al.			

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ITC 1	6,512,737	1/2003	Agee			
Lits. 1, 4, and 7-8	6,526,281	2/2003	Gorsuch et al.			
	6,529,488	3/2003	Urs et al.			
	6,535,501	3/2003	Bohnke			
	6,539,233	3/2003	Taketsugu et al.			
Lits. 1, 4, and 7-8; ITC 1	6,545,997	4/2003	Bohnke et al.			
Lits. 7-8 and 17-18	6,546,249	4/2003	Imai et al.			
	6,553,001	4/2003	Indira			
	6,553,011	4/2003	Yan et al.			
	6,553,234	4/2003	Florea			
ITC 1	6,556,557	4/2003	Cimini Jr. et al.			
ITC 1	6,563,786	5/2003	Van Nee			
	6,567,383	5/2003	Bohnke et al.			
Lits. 1-12, 21-28 and 30	6,567,387	5/2003	Dulin et al.			
	6,574,476	6/2003	Williams			
	6,584,330	6/2003	Ruuska			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,587,696	7/2003	Ma			
	6,600,772	7/2003	Zeira et al.			
Lits. 1, 4, and 7-8	6,600,776	7/2003	Alamouti et al.			
	6,600,934	7/2003	Yun et al.			
	6,606,296	8/2003	Kokkonen			
	6,608,863	8/2003	Onizawa et al.			
	6,609,039	8/2003	Schoen			
	6,611,506	8/2003	Huang et al.			
Lits. 7-8 and 17-18; ITC 1	6,615,024	9/2003	Boros et al.			
	6,633,614	10/2003	Barton et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,647,078	11/2003	Thomas			
ITC 1	6,647,271	11/2003	Doi			
	6,654,431	11/2003	Barton et al.			
	6,654,612	11/2003	Avidor et al.			
Lits. 1, 4, and 7-8; ITC 1	6,657,949	12/2003	Jones, IV et al.			
Lits. 7-8 and 17-18	6,674,732	1/2004	Boehnke et al.			
	6,681,256	1/2004	Kuntze et al.			
	6,690,944	2/2004	Lee et al.			
Lits. 1, 4, and 7-8	6,693,884	2/2004	Gutowski			
Lits. 1-12, 17-18, 21-28, and 30	6,694,147	2/2004	Viswanath et al.			

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	6,699,784	3/2004	Xia et al.			
Lits. 1-12, 21-28, and 30	6,701,129	3/2004	Hashem et al.			
Lits. 7-8	6,711,416	10/2000	Zhang			
Lit. 1	6,721,159	4/2004	Takashige et al.			
Lits. 2, 3, 5-12, 17-18, 21-28, and 30	6,721,569	4/2004	Hashem et al.			
Lits. 1, 4, and 7-8	6,726,297	4/2004	Uesugi et al.			
	6,726,978	4/2004	Sehr			
Lits. 4, 7-8, and 17-18	6,741,861	5/2004	Bender et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,748,222	6/2004	Hashem et al.			
	6,751,193	6/2004	Kudrimoti et al.			
Lits. 7-8	6,751,261	6/2004	Olsson et al.			
	6,751,444	6/2004	Meiyappan			
Lits. 4, 7-8, and 17-18	6,751,480	6/2004	Kogiantis et al.			
Lits. 7-8 and 17-18; ITC 1	6,757,265	6/2004	Sebastian et al.			
Lits. 1-12, 21-28, and 30	6,760,882	7/2004	Gesbert et al.			
Lits. 23-28	6,775,320	8/2004	Tzannes et al.			
	6,781,974	8/2004	Tsumura			
Lits. 1, 4, and 7-8	6,782,037	8/2004	Krishnamoorthy et al.			
Lits. 1, 4, and 7-8	6,788,349	9/2004	Wu et al.			
	6,795,392	9/2004	Li et al.			
Lits. 2, 3, 5-12, 17-18, 21-28, and 30; ITC 1	6,795,424	9/2004	Kapoor et al.			
Lits. 7-8	6,816,452	11/2004	Maehata et al.			
	6,826,240	11/2004	Thomas et al.			
	6,834,045	12/2004	Lappetelainen et al.			
	6,850,506	2/2005	Holtzman et al.			
Lits. 1-12, 21-28, and 30	6,862,272	3/2005	Dulin et al.			
	6,868,277	3/2005	Cerwall et al.			
Lits. 4, 7-8, 15, and 17-18	6,870,808	3/2005	Liu et al.			
	6,870,826	3/2005	Ishizu			
	6,873,612	3/2005	Steer et al.			
Lits. 4, 7-8, 15, and 17-18	6,882,619	4/2005	Gerakoulis			
ITC 1	6,888,899	5/2005	Raleigh et al.			
ITC 1	6,891,792	5/2005	Cimini, Jr. et al.			
	6,892,059	5/2005	Kim et al.			
	6,904,030	6/2005	Lee et al.			

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Lits. 3-5, 7-8, 11, 15, 17-18, and 23-28	6,904,283	6/2005	Li et al.			
Lits. 2, 3, and 5-12	6,904,284	6/2005	Saito, et al.			
Lits. 1, 4, and 7-8	6,907,244	6/2005	Santhoff et al.			
Lits. 1, 4, and 7-8	6,920,122	7/2005	Hanaoka et al.			
Lits. 4, 7-8, 15, and 17-18	6,922,388	7/2005	Laroia et al.			
Lits. 1-12, 17-18, 21-28, and 30; ITC 1	6,922,445	7/2005	Sampath et al.			
Lits. 1, 4, and 7-8	6,928,120	8/2005	Zhang			
Lits. 23-28	6,937,557	8/2005	Sudo			
Lits. 7-8 and 17-18; ITC 1	6,937,665	8/2005	Vandenameele			
Lits. 1, 4, 7-8, and 17-18	6,944,120	9/2005	Wu et al.			
Lits. 3-5, 7-8, 11, 15, 17-18, and 23-28; JP Lit. 6	6,947,748	9/2005	Li et al.			
Lits. 2, 3, 5, 6, 9-12, 21-28, and 30	6,961,364	11/2005	Laroia et al.			
	6,975,603	12/2005	Dicker et al.			
	6,975,611	12/2005	Balachandran et al.			
Lits. 1, 4, and 7-8	6,985,432	1/2006	Hadad et al.			
	6,985,434	1/2006	Wu et al.			
	6,996,056	2/2006	Chheda et al.			
Lits. 1, 4, 7-8, and 17-18	6,996,075	2/2006	Santhoff et al.			
	6,996,100	2/2006	Haartsen			
Lits. 7-8	7,010,048	3/2006	Shattil et al.			
Lits. 4 and 7-8	7,020,072	3/2006	Li et al.			
Lits. 4 and 7-8	7,031,753	4/2006	Hashem			
	7,047,011	5/2006	Wikman et al.			
	7,051,268	5/2006	Sindhushayana et al.			
	7,058,146	6/2006	Paulraj et al.			
	7,062,246	6/2006	Owen			
	7,062,295	6/2006	Yoshii et al.			
	7,068,628	6/2006	Li et al.			
Lits. 2-12, 15, 17-18, 21-28, and 30; ITC 1	7,072,315	7/2006	Liu et al.			
Lits. 1-12, 21-28, and 30	7,095,719	8/2006	Wilhelmsson et al.			
	7,099,413	8/2006	Chuang et al.			
	7,116,944	10/2006	Das et al.			

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Lits. 1, 4, and 7-8	7,133,352	11/2006	Hadad			
	7,133,380	11/2006	Winters et al.			
Lits. 4, 7-8, 15, and 17-18	7,135,358	11/2006	Sugino et al.			
ITC 1	7,139,592	11/2006	Leifer et al.			
ITC 1	7,145,971	12/2006	Raleigh et al.			
Lits. 4, 7-8, 15, and 17-18	7,146,172	12/2006	Li et al.			
Lits. 4, 7-8, and 17-18; ITC 1	7,180,877	2/2007	Benveniste			
	7,203,191	4/2007	Garcia-Luna-Aceves et al.			
ITC 1	7,203,249	4/2007	Raleigh et al.			
	7,209,745	4/2007	Sebastian et al.			
	7,224,741	5/2007	Hadad			
Lits. 1-12, 21-28, and 30	7,230,908	6/2007	Vanderaar et al.			
	7,269,389	9/2007	Petrus et al.			
	7,310,522	12/2007	Geile			
	7,355,962	4/2008	Li et al.			
Lits. 4, 7-8, and 17-18	7,366,253	4/2008	Kim et al.			
Lits. 1, 4, and 7-8	7,373,151	5/2008	Ahmed			
	7,376,172	5/2008	Laroia et al.			
Lits. 4 and 7-8	7,379,506	5/2008	Boariu et al.			
	7,379,742	5/2008	Li et al.			
	7,450,604	11/2008	Gardner et al.			
Lits. 3-5, 7-8, 11, 15, 17-18, and 23-28	7,454,212	11/2008	Li et al.			
	7,489,934	2/2009	Li et al.			
	7,509,138	3/2009	Shin et al.			
ITC 1	7,555,060	6/2009	Raleigh et al.			
	7,573,850	8/2009	Li et al.			
Lits. 4, 7-8, 15, and 17-18	7,573,851	8/2009	Xing et al.			
	7,590,095	9/2009	Chen et al.			
	7,650,152	1/2010	Li et al.			
ITC 1	7,664,188	2/2010	Raleigh et al.			
	7,675,938	3/2010	Kolze			
	7,706,315	4/2010	Vaneraar et al.			
	7,715,358	5/2010	Li et al.			
ITC 1	7,751,854	7/2010	Leifer et al.			
	7,783,285	8/2010	Chater-Lea			
	7,787,514	8/2010	Shattil			
	7,787,872	8/2010	Minborg et al.			
ITC 1	7,826,560	11/2010	Raleigh et al.			

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	7,827,581	11/2010	Eiger et al.			
	7,933,244	4/2011	Li et al.			
	8,005,479	8/2011	Meiyappan			
ITC 1	8,036,307	10/2011	Raleigh et al.			
	8,036,164	10/2011	Winters et al.			
	8,036,199	10/2011	Li et al.			
Lits. 4, 7-8, 15, and 17-18	8,358,574	1/2013	Gerakoulis			
	8,553,521	10/2013	Zhang et al.			
	2001/0027113	10/2001	Hayashihara			
	2001/0040089	11/2001	Hemingway et al.			
	2001/0040880	11/2001	Chen et al.			
	2002/0006120	1/2002	Suzuki et al.			
	2002/0006167	1/2002	McFarland			
	2002/0016173	2/2002	Hunzinger			
	2002/0114269	8/2002	Onggosanusi et al.			
	2002/0115468	8/2002	Haim			
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