UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 9,055,586 B2
APPLICATION NO.	: 13/727153
DATED	: June 9, 2015
INVENTOR(S)	: Nicholas William Anderson

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION

At column 7, line 52, after "by a", delete "step A dl3" and insert therefor --step Δ dB--.

Signed and Sealed this
Seventh Day of June, 2016

Michelle K. Lee

Michelle K. Lee
Director of the United States Patent and Trademark Office

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT** of:	
	Nicholas William Anderson
Patent No.:	9,055,586
Issued:	June 9, 2015
Appln. No.:	13/727,153
Filed:	December 26, 2012
For: POWER CONTROL IN A WIRELESS NETWORK	

Our File: IPW2-USCN196553

Date: May 3, 2016

REQUEST FOR CERTIFICATE OF CORRECTION

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

A Certificate of Correction under 35 U.S.C. § 255 and 37 C.F.R. § 1.323 is requested for U.S. Patent No. 9,055,586. Correction of the following typographical error is requested.

4112082-1

IN THE SPECIFICATION

At column 7, line 52, after "by a", delete "step A dl3" and insert therefor --step Δ dB--.

REMARKS

Patentee believes that the above error is of such a nature as to justify the issuance of a Certificate of Correction. Patentee has enclosed a completed Certificate of Correction Form PTO/SB/44.

Since at least one of the errors was caused by Patentee, please charge the surcharge fee pursuant to C.F.R. §1.20(a) of $100.00 to the credit card identified at the time of filing.

Patentee respectfully request that the Certificate of Correction be issued.

Respectfully submitted,

Intellectual Ventures Holding 81 LLC

By /Harry Vartanian/
Harry Vartanian
Registration No. 56,787
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza
30 South 17th Street
Philadelphia, PA 19103-4009

HV/eam

PTO/SB/44 (09-07)
Approved for use through 08/31/2013. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 9,055,586

APPLICATION NO.: 13/727,153

ISSUE DATE : June 9, 2015

INVENTOR(S) : Nicholas William Anderson

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

IN THE SPECIFICATION

At column 7, line 52, after "by a", delete "step A dl3" and insert therefor --step Δ dB--.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

Volpe and Koenig, P.C.
United Plaza, 18th Floor
Philadelphia, PA 19103

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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.

Electronic Patent Application Fee Transmittal

Application Number:	13727153
Filing Date:	26-Dec-2012
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Harry Vartanian/Elizabeth McGinty
Attorney Docket Number:	IPW2-USCN196553

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Certificate of Correction	1811	1	100	100

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**100**

Electronic Acknowledgement Receipt

EFS ID:	25666490
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Elizabeth McGinty
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	03-MAY-2016
Filing Date:	26-DEC-2012
Time Stamp:	12:38:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$100
RAM confirmation Number	24850
Deposit Account	220493
Authorized User	VARTANIAN, HARRY

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 CFR 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 CFR 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	IPW2-USCN196553-Request_for_CoC-20160503.PDF	74158 1ee91df70b46a5df12f78a58d74003b071fe4e82	no	3
Warnings:					
Information:					
2	Request for Certificate of Correction	IPW2-USCN196553-Request_for_CoC_SB44-20160503.PDF	176252 326b340395112547f430dd2c8885d432942dbab7	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30404 c47f032001861ff3b7b1813cd421a7eb827107b8	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	280814		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	06/09/2015	9055586	IPW2-USCN196553	1320

3624 7590 05/20/2015

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

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 81 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):

Nicholas W. Anderson, Bristol, UNITED KINGDOM;
INTELLECTUAL VENTURES HOLDING 81 LLC, Las Vegas, NV

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

3624 7590 02/06/2015
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

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	05/06/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2647	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "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.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(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.

1 Volpe and Koenig, P.C.
2
3

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: Intellectual Ventures Holding 81 LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Las Vegas, Nevada

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

4a. The following fee(s) are submitted:
- ☑ Issue Fee
- ☑ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ☐ A check is enclosed.
- ☑ Payment by credit card. Form PTO-2038 is attached.
- ☑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number 220493 (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29 — 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.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27 — 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.
- ☐ Applicant changing to regular undiscounted fee 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 /Harry Vartanian/ Date May 6, 2015

Typed or printed name Harry Vartanian Registration No. 56,787

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Electronic Patent Application Fee Transmittal	
Application Number:	13727153
Filing Date:	26-Dec-2012
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Harry Vartanian/Elizabeth McGinty
Attorney Docket Number:	IPW2-USCN196553
Filed as Large Entity	
Filing Fees for Utility under 35 USC 111(a)	

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Utility Appl Issue Fee	1501	1	960	960
Publ. Fee- Early, Voluntary, or Normal	1504	1	0	0
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**960**

Electronic Acknowledgement Receipt	
EFS ID:	22267169
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Elizabeth McGinty
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	06-MAY-2015
Filing Date:	26-DEC-2012
Time Stamp:	11:48:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$960
RAM confirmation Number	7988
Deposit Account	220493
Authorized User	VARTANIAN, HARRY
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	IPW2-USCN196553-Issue_Fee_Payment-20150506.PDF	1605131 1950c5f7ab24b7d8699ddab897f6d604a65888e0	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32357 672d29f76b4e2d2274e56f40068d299699dc9d9f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1637488		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

3624 7590 02/06/2015

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER
REGO, DOMINIC E

ART UNIT	PAPER NUMBER
2647	

DATE MAILED: 02/06/2015

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

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	05/06/2015

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.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

3624 7590 02/06/2015
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

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	05/06/2015

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2647	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "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.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(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.

1 _____
2 _____
3 _____

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

4a. The following fee(s) are submitted:

❑ Issue Fee

❑ Publication Fee (No small entity discount permitted)

❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**

❑ A check is enclosed.

❑ Payment by credit card. Form PTO-2038 is attached.

❑ 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).

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

❑ Applicant certifying micro entity status. See 37 CFR 1.29

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.

❑ Applicant asserting small entity status. See 37 CFR 1.27

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.

❑ Applicant changing to regular undiscounted fee 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. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

3624 7590 02/06/2015

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2647	

DATE MAILED: 02/06/2015

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. 13/727,153	Applicant(s) ANDERSON, NICHOLAS W.	
	Examiner DOMINIC E. REGO	Art Unit 2647	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 *12/02/2014*.
   ☐ 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 *1-14*. 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. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

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

DETAILED ACTION

Allowable Subject Matter

2. Claims 1-14 are allowed for the same reasons presented in the office action mailed on 09/10/2014.

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

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Nay A. Maung can be reached on 571-272-7882. 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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2647
Tel 571-272-8132

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

CPC						
Symbol					**Type**	**Version**
H04W		72	/	0473	F	2013-01-01
H04W		52	/	06	I	2013-01-01
H04W		52	/	08	A	2013-01-01
H04W		52	/	10	A	2013-01-01
H04W		52	/	12	A	2013-01-01
H04W		52	/	221	A	2013-01-01
H04W		52	/	24	I	2013-01-01
H04W		52	/	242	A	2013-01-01
H04W		52	/	243	A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	14	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647	01/30/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
455	522	H	0	4	B	7 / 00 (2006.01.01)						

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
455	68	69			

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	14	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647	01/30/2015	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1														
2	2														
3	3														
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10	8														
11	9														
12	10														
6	11														
7	12														
13	13														
14	14														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 14	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647 (Primary Examiner)	01/30/2015 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L9	35521	455/522,68-70,115.3,126,135,226.3,277.2,422.1,450-453,456.2,464,509,510.ccls. 370/318.ccls.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:16
L10	2	(down$link forward$link forward near2 link) near5 (physical near2 channel) same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) with power near2 level same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L11	3	(down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) same power near2 level same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L12	10571	(down$link forward$link forward near2 link) near5 (physical near2 channel)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L13	1915	L12 same resource near5 allocat$3	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L14	339	L13 same (power near3 command$3 tpc)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L15	2	L14 same (up$link reverse$link reverse near link) with power near2 level	US-PGPUB; USPAT	OR	ON	2015/01/30 14:17
L16	2	L14 same power near2 level	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L17	52316	(physical near2 channel)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L18	1444	L17 same (up$link reverse$link reverse near link) with resource near3 allocat$3	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L19	287	L18 same (power near3 command$3 tpc)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L20	3	L19 same power near2 level	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L21	10571	(down$link forward$link forward near2 link) near5 (physical near2 channel)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:18
L22	1973	21 same resource with allocat$3	US-PGPUB; USPAT	OR	ON	2015/01/30 14:19
L23	331	22 same (power near4 control$4 with	US-	OR	ON	2015/01/30

		command$3 tpc)	PGPUB; USPAT			14:20
L24	2	23 same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2015/01/30 14:21
L25	19	9 and 23	US-PGPUB; USPAT	OR	ON	2015/01/30 14:21
L26	16	25 and (@ad <= "20101020" @rlad <= "20101020" @pd <= "20101020")	US-PGPUB; USPAT	OR	ON	2015/01/30 14:22

1/ 30/ 2015 2:22:59 PM
C:\ Users\ drego\ Documents\ EAST\ Workspaces\ 13727153.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	166	(nicholas near2 anderson).in.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:13
L2	102	(intellectual near2 ventures near2 holding).as.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:13
L3	2	((down$link forward$link forward near2 link) near5 (physical near2 channel) same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) with power near2 level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:13
L4	3	((down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) same power near2 level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:14
L5	3	(resource with allocat$3 same power with command$3 same power with level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:14
L6	3	(resource with allocat$3 same power with command$3 same power with level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2015/01/30 14:14
L7	2	1 and 3	US-PGPUB; USPAT	OR	ON	2015/01/30 14:14
L8	3	1 and 4	US-PGPUB; USPAT	OR	ON	2015/01/30 14:15

1/30/2015 2:16:14 PM
C:\Users\drego\Documents\EAST\Workspaces\13727153.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	Art Unit
	DOMINIC E REGO	2647

CPC- SEARCHED		
Symbol	Date	Examiner
H04W 72/0473	5/18/2014	DR
H04W 52/24	5/18/2014	DR
H04W 52/242	5/18/2014	DR
H04W 52/08	5/18/2014	DR
H04W 52/10	5/18/2014	DR
H04W 52/12	5/18/2014	DR
H04W 52/221	5/18/2014	DR
H04W 52/248	5/18/2014	DR

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
455	522, 68-70, 115.3, 126, 135, 226.3, 277.2, 422.1, 450-453, 456.2, 464, 509, 510	5/17/2014	DR
370	318	5/17/2014	DR

SEARCH NOTES		
Search Notes	Date	Examiner
EAST, Inventor, and Assignee Search	5/17/2014	DR
Updated above search	8/30/2014	DR
Updated above search	1/30/2015	DR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	PGPUB Text Search-See Interference Search History	8/30/2014	DR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	**US Subclass / CPC Group**	**Date**	**Examiner**
	Updated above search	1/30/2015	DR

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	13727153
Filing Date	2012-12-26
First Named Inventor	Nicholas William Anderson
Art Unit	2647
Examiner Name	Dominic E. Rego
Attorney Docket Number	IPW2-USCN196553

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20050073973	A1	2005-04-07	LaRoia et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

EFS Web 2.1.17

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.R./

Receipt date: 12/02/2014	Application Number	13727153 13727153 - GAU: 2647
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)	Filing Date	2012-12-26
	First Named Inventor	Nicholas William Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	/Dominic Rego/	Date Considered	01/29/2015

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.R./

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL
(Submitted Only via EFS-Web)

Application Number	13727153	Filing Date	2012-12-26	Docket Number (if applicable)	IPW2-USCN196553	Art Unit	2647
First Named Inventor	Nicholas W. Anderson			Examiner Name	Dominic E. Rego		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

- ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____
- ☐ Other _____

☒ Enclosed

- ☐ Amendment/Reply
- ☒ Information Disclosure Statement (IDS)
- ☐ Affidavit(s)/ Declaration(s)
- ☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____ (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

☒ **The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.**
The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to Deposit Account No 220493

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

PTO/SB/30EFS (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature	/Harry Vartanian/	Date (YYYY-MM-DD)	2014-12-02
Name	Harry Vartanian	Registration Number	56787

This collection of information is required by 37 CFR 1.114. 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 1.11 and 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, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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 the Freedom of Information Act requires disclosure of these records.

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 inspections 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.

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13727153
	Filing Date	2012-12-26
	First Named Inventor	Nicholas William Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20050073973	A1	2005-04-07	LaRoia et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

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	Attorney Docket Number	IPW2-USCN196553

	1		☐

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13727153
	Filing Date	2012-12-26
	First Named Inventor	Nicholas William Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Harry Vartanian/	Date (YYYY-MM-DD)	2014-12-02
Name/Print	Harry Vartanian	Registration Number	56,787

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Electronic Patent Application Fee Transmittal	
Application Number:	13727153
Filing Date:	26-Dec-2012
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Harry Vartanian/Elizabeth McGinty
Attorney Docket Number:	IPW2-USCN196553
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Request for Continued Examination	1801	1	1200	1200
		Total in USD ($)		**1200**

Electronic Acknowledgement Receipt	
EFS ID:	20842387
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Elizabeth McGinty
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	02-DEC-2014
Filing Date:	26-DEC-2012
Time Stamp:	16:40:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1200
RAM confirmation Number	3454
Deposit Account	220493
Authorized User	VARTANIAN, HARRY
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	IPW2-USCN196553-RCE-transmittal-20141201.PDF	697795 038734d3c69bb84e3a2718e4c92eed27cd8dad0b	no	3
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	IPW2-USCN196553-IDS-SB08-20140924.PDF	675159 d7732e907b4bd63f08d4b90987257a1285c7081f	no	4
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30574 922d12bdb6206bb96054b19a9cc752704e484480	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1403528		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

3624 7590 09/10/2014

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER
REGO, DOMINIC E

ART UNIT	PAPER NUMBER
2647	

DATE MAILED: 09/10/2014

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

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	12/10/2014

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.

PTOL-85 (Rev. 02/11)

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

3624 7590 09/10/2014
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

TITLE OF INVENTION: POWER CONTROL IN A WIRELESS NETWORK

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	12/10/2014

EXAMINER	ART UNIT	CLASS-SUBCLASS
REGO, DOMINIC E	2647	455-522000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "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.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(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.
1 _____
2 _____
3 _____

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

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ 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).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — 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.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — 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.
- ❑ Applicant changing to regular undiscounted fee 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. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

UNITED STATES PATENT AND TRADEMARK OFFICE

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

3624 7590 09/10/2014

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2647	

DATE MAILED: 09/10/2014

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. 13/727,153	Applicant(s) ANDERSON, NICHOLAS W.	
	Examiner DOMINIC E. REGO	Art Unit 2647	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 *08/25/14*.
   ☐ 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 *1-14*. 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. ☐ Notice of References Cited (PTO-892)
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

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

DETAILED ACTION

Allowable Subject Matter

2. Claims 1-14 are allowed.

3. The following is an examiner's statement of reasons for allowance:

Regarding claims 1 and 6, the prior art of record, specifically Zeira et al. (International Publication Number #WO 2000/57574) teaches a method performed by a wireless network, the method comprising:

transmitting, by the wireless network on a single downlink physical channel, a signal having both uplink resource allocation information and a multilevel transmit power command *(Page 4, line 18-Page 5, line 8, Zeira teaches the first station (base station) transmits power commands based on in part a reception quality of the received communications. The first station (base station) transmits a second communication (remote terminal) having a transmission power level in a first time slot. The second station receives the second communication and the power commands. A power level of the second communication as received is measured (calculated). A path loss estimate is determined based on in part the measured received second communication power level and the first communication power level)*;

receiving, by a user equipment (UE), the signal (Page 4, line 17-Page 5, line 8).

However, as a whole, none of the prior art cited alone or in combination provides the motivation to teach transmitting, by the UE on an uplink channel, an uplink signal in

association with the uplink resource allocation information, wherein a transmission power level of the uplink signal is based on the multilevel transmit power command, a determined pathloss, and a format of the uplink signal; and

receiving, by the wireless network on the uplink channel, the uplink signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. 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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2647
Tel 571-272-8132

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	Art Unit
	DOMINIC E REGO	2647

CPC- SEARCHED		
Symbol	Date	Examiner
H04W 72/0473	5/18/2014	DR
H04W 52/24	5/18/2014	DR
H04W 52/242	5/18/2014	DR
H04W 52/08	5/18/2014	DR
H04W 52/10	5/18/2014	DR
H04W 52/12	5/18/2014	DR
H04W 52/221	5/18/2014	DR
H04W 52/248	5/18/2014	DR

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
455	522, 68-70, 115.3, 126, 135, 226.3, 277.2, 422.1, 450-453, 456.2, 464, 509, 510	5/17/2014	DR
370	318	5/17/2014	DR

SEARCH NOTES		
Search Notes	Date	Examiner
EAST, Inventor, and Assignee Search	5/17/2014	DR
Updated above search	8/30/2014	DR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	PGPUB Text Search-See Interference Search History	8/30/2014	DR

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13727153
	Filing Date	2012-12-26
	First Named Inventor	Nicholas W. Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5719583	B1	1998-02-17	Kanai	
	2	5887245	B1	1999-03-23	Lindroth et al.	
	3	6085106	B1	2000-07-04	Sedonaris et al.	
	4	6137993	B1	2000-10-24	Almgren et al.	
	5	6442398	B1	2002-08-27	Padovani et al.	
	6	6512931	B1	2003-01-28	Kim et al.	
	7	6597723	B1	2003-07-22	Zeira et al.	
	8	6628956	B2	2003-09-30	Bark et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.R./

Receipt date: 08/25/2014	Application Number	13727153 13727153 - GAU: 2647
INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Filing Date	2012-12-26
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	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

	9	6823194	B2	2004-11-23	Haim	
	10	6983166	B2	2006-01-03	Shiu et al.	
	11	7190688	B1	2007-03-13	Kamel et al.	
	12	7277721	B2	2007-10-02	Okumura et al.	* Corresponds to WO 03/010903
	13	8134994	B2	2012-03-13	Liu et al.	* Corresponds to JP 2004-248247

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U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20010036823	A1	2001-11-01	Van Lieshout et al.	
	2	20030032411	A1	2003-02-13	Kim et al.	
	3	20030103530	A1	2003-06-05	Durastante	
	4	20030134655	A1	2003-07-17	Chen et al.	

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	5	20040137860	A1	2004-07-15	Oh et al.	
	6	20040141483	A1	2004-07-22	Zeira et al.	
	7	20040162093	A1	2004-08-19	Bevan et al.	
	8	20040171387	A1	2004-09-02	Miyoshi et al.	
	9	20040190485	A1	2004-09-30	Khan	* Corresponds to JP 2004-289842
	10	20040203987	A1	2004-10-14	Butala	
	11	20050003846	A1	2005-01-06	Anderson	
	12	20050025056	A1	2005-02-03	Chen et al.	
	13	20050041673	A1	2005-02-24	Jiang et al.	
	14	20050130690	A1	2005-06-16	Shinozaki	
	15	20050136961	A1	2005-06-23	Simonsson et al.	

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	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

	16	20050176455	A1	2005-08-11	Krishnan et al.	
	17	20050207359	A1	2005-09-22	Hwang et al.	
	18	20070081492	A1	2007-04-12	Petrovic et al.	
	19	20090028111	A1	2009-01-29	Chao et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	1071227	EP	A2	2001-01-24	Usuda et al.		☐
	2	1176739	EP	A1	2002-01-30	Hayashi et al.		☐
	3	1367740	EP	A1	2003-12-03	Zeira et al.		☐
	4	2350522	GB	A1	2000-11-29	Hulbert et al.		☐
	5	2004040187	JP	A2	2004-02-05	Miya et al.		☐

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	Attorney Docket Number	IPW2-USCN196553

	6	199631009	WO	A1	1996-10-03	Otten		☐
	7	199907105	WO	A2	1999-02-11	Larsen et al.		☐
	8	200057574	WO	A1	2000-09-28	Zeira et al.	* Corresponds to CN 1343400A	☐
	9	200108322	WO	A1	2001-02-01	Simonsson et al.		☐
	10	200184740	WO	A2	2001-11-08	Zeira et al.		☐
	11	2003010903	WO	A1	2003-02-06	Okumura et al.		☐
	12	2003036816	WO	A1	2003-05-01	Anderson		☐

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5
	1	"Recommendation ITU-R M.1225: Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000," International Telecommunication Union/ITU Radiocommunication Sector, January 1, 1997, Rec. ITU-R M.1225, pp. 1-61.	☐
	2	Communication pursuant to Article 94(3) EPC from European Patent Application No. 05 801 370.7-1246 dated December 30. 2009.	☐

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	3	European Search Report Dated December 2, 2010 from European Application No. 10185576.5- 1246.	☐
	4	Great Britain Search Report mailed May 14, 2002, for Great Britain Application No. 0125504.1 filed October 24, 2001, 1 page.	☐
	5	International Search Report mailed December 22, 2005, for PCT Application No. PCT/EP2005/053931 filed August 10, 2005, 4 pages.	☐
	6	International Search Report mailed January 21, 2003, for PCT Application No. PCT/GB02/04811 filed October 24, 2002, 3 paqes.	☐
	7	Office Action for Japanese Application No. 2007-525302, issued March 13, 2012 (A copy of the office action and its English machine translation have been provided).	☐
	8	THIRD GENERATION PARTNERSHIP PROJECT, Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6); 3GPP TR 25.804 V6.0.0 (2005-03)	☐
	9	NON-FINAL REJECTION, U.S. Patent Application No. 13/726,976, dated May 22, 2014.	☐
	10	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	☐
	11	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	☐
	12	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated June 18, 2014.	☐
	13	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated January 8, 2010.	☐

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	Attorney Docket Number	IPW2-USCN196553

	14	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated March 31, 2009.	☐
	15	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated August 1, 2008.	☐
	16	REQUIREMENT FOR RESTRICTION/ELECTION, U.S. Patent Application No. 10/917,968, dated March 19, 2008.	☐
	17	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated July 2, 2007.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Dominic Rego/	Date Considered	08/29/2014

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /D.R./

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L11	7	(down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same (power with command$3 tpc) same (up$link reverse$link reverse near link) same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2014/08/30 07:59
L12	33822	455/522,68-70,115.3,126,135,226.3,277.2,422.1,450-453,456.2,464,509,510.ccls. 370/318.ccls.	US-PGPUB; USPAT	OR	ON	2014/08/30 08:00
L13	0	11 and 12	US-PGPUB; USPAT	OR	ON	2014/08/30 08:00
L14	77	resource with allocat$3 same (power near3 command$3 tpc) same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2014/08/30 08:01
L15	28	12 and 14	US-PGPUB; USPAT	OR	ON	2014/08/30 08:01
L16	0	15 and (@ad <= "20040812" @rlad <= "20040812" @pd <= "20040812")	US-PGPUB; USPAT	OR	ON	2014/08/30 08:02
L17	23020	(transmi$6 send$3 forward$3 deliver$3 provid$3) with physical near2 channel	US-PGPUB; USPAT	OR	ON	2014/08/30 08:03
L18	1130	resourc$3 near3 allocat$3 with (power near3 command$3 tpc)	US-PGPUB; USPAT	OR	ON	2014/08/30 08:04
L19	1123	resourc$3 near3 allocat$3 with (power near3 commands tpc)	US-PGPUB; USPAT	OR	ON	2014/08/30 08:05
L20	124	17 same 19	US-PGPUB; USPAT	OR	ON	2014/08/30 08:05
L21	710	resourc$3 near3 allocat$3 near3 information with (power near3 commands tpc)	US-PGPUB; USPAT	OR	ON	2014/08/30 08:05
L22	118	17 same 21	US-PGPUB; USPAT	OR	ON	2014/08/30 08:05
L23	1	resourc$3 near3 allocat$3 near3 information with (power near3 commands tpc) with (path$loss path near2 loss) same format$3 near3 (uplink reverse) near2 signal	US-PGPUB; USPAT	OR	ON	2014/08/30 08:07
L24	2	resourc$3 near3 allocat$3 near3 information same (power near3 commands tpc) same (path$loss path near2 loss) same format$3 near3 (uplink reverse) near2 signal	US-PGPUB; USPAT	OR	ON	2014/08/30 08:08
L25	710	resourc$3 near3 allocat$3 near3 information with (power near3 commands tpc)	US-PGPUB;	OR	ON	2014/08/30 08:08

			USPAT			
L26	2	25 same (path$loss path near2 loss) same format$3 near3 (uplink reverse) near2 signal	US-PGPUB; USPAT	OR	ON	2014/08/30 08:09

8/30/2014 8:09:53 AM
C:\Users\drego\Documents\EAST\Workspaces\13727153.wsp

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L3	156	(nicholas near2 anderson).in.	US-PGPUB; USPAT	OR	ON	2014/08/30 07:54
L4	96	(intellectual near2 ventures near2 holding).as.	US-PGPUB; USPAT	OR	ON	2014/08/30 07:54
L5	3	((down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same (power with command$3 tpc) same (up$link reverse$link reverse near link) same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2014/08/30 07:57
L6	2	3 and 5	US-PGPUB; USPAT	OR	ON	2014/08/30 07:57
L7	2	4 and 5	US-PGPUB; USPAT	OR	ON	2014/08/30 07:57
L8	6	(resource with allocat$3 same (power near3 command$3 tpc) same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2014/08/30 07:58
L9	2	4 and 6	US-PGPUB; USPAT	OR	ON	2014/08/30 07:59
L10	2	3 and 6	US-PGPUB; USPAT	OR	ON	2014/08/30 07:59

8/30/2014 7:59:28 AM
C:\Users\drego\Documents\EAST\Workspaces\13727153.wsp

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

CPC						
Symbol					**Type**	**Version**
H04W		72	/	0473	F	2013-01-01
H04W		52	/	06	I	2013-01-01
H04W		52	/	24	I	2013-01-01
H04W		52	/	08	A	2013-01-01
H04W		52	/	10	A	2013-01-01
H04W		52	/	12	A	2013-01-01
H04W		52	/	221	A	2013-01-01
H04W		52	/	242	A	2013-01-01
H04W		52	/	243	A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
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			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	14	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647	08/30/14	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	1

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
455	522	H 0 4 B 7 / 00 (2006.01.01)	

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				
455	68	69			

NONE		Total Claims Allowed:
(Assistant Examiner)	(Date)	14
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647	08/30/14	O.G. Print Claim(s): 1 / O.G. Print Figure: 1
(Primary Examiner)	(Date)	

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1														
2	2														
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12	10														
6	11														
7	12														
13	13														
14	14														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 14	
/DOMINIC E REGO/ Primary Examiner.Art Unit 2647 (Primary Examiner)	08/30/14 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 1

PTO/SB/08a (01-10)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99)**		
	Application Number	13727153
	Filing Date	2012-12-26
	First Named Inventor	Nicholas W. Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5719583	B1	1998-02-17	Kanai	
	2	5887245	B1	1999-03-23	Lindroth et al.	
	3	6085106	B1	2000-07-04	Sedonaris et al.	
	4	6137993	B1	2000-10-24	Almgren et al.	
	5	6442398	B1	2002-08-27	Padovani et al.	
	6	6512931	B1	2003-01-28	Kim et al.	
	7	6597723	B1	2003-07-22	Zeira et al.	
	8	6628956	B2	2003-09-30	Bark et al.	

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	9	6823194	B2	2004-11-23	Haim	
	10	6983166	B2	2006-01-03	Shiu et al.	
	11	7190688	B1	2007-03-13	Kamel et al.	
	12	7277721	B2	2007-10-02	Okumura et al.	* Corresponds to WO 03/010903
	13	8134994	B2	2012-03-13	Liu et al.	* Corresponds to JP 2004-248247

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	1	20010036823	A1	2001-11-01	Van Lieshout et al.	
	2	20030032411	A1	2003-02-13	Kim et al.	
	3	20030103530	A1	2003-06-05	Durastante	
	4	20030134655	A1	2003-07-17	Chen et al.	

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	5	20040137860	A1	2004-07-15	Oh et al.	
	6	20040141483	A1	2004-07-22	Zeira et al.	
	7	20040162093	A1	2004-08-19	Bevan et al.	
	8	20040171387	A1	2004-09-02	Miyoshi et al.	
	9	20040190485	A1	2004-09-30	Khan	* Corresponds to JP 2004-289842
	10	20040203987	A1	2004-10-14	Butala	
	11	20050003846	A1	2005-01-06	Anderson	
	12	20050025056	A1	2005-02-03	Chen et al.	
	13	20050041673	A1	2005-02-24	Jiang et al.	
	14	20050130690	A1	2005-06-16	Shinozaki	
	15	20050136961	A1	2005-06-23	Simonsson et al.	

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	First Named Inventor	Nicholas W. Anderson
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	16	20050176455	A1	2005-08-11	Krishnan et al.	
	17	20050207359	A1	2005-09-22	Hwang et al.	
	18	20070081492	A1	2007-04-12	Petrovic et al.	
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	1	1071227	EP	A2	2001-01-24	Usuda et al.		☐
	2	1176739	EP	A1	2002-01-30	Hayashi et al.		☐
	3	1367740	EP	A1	2003-12-03	Zeira et al.		☐
	4	2350522	GB	A1	2000-11-29	Hulbert et al.		☐
	5	2004040187	JP	A2	2004-02-05	Miya et al.		☐

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	First Named Inventor	Nicholas W. Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

	6	199631009	WO	A1	1996-10-03	Otten		☐
	7	199907105	WO	A2	1999-02-11	Larsen et al.		☐
	8	200057574	WO	A1	2000-09-28	Zeira et al.	* Corresponds to CN 1343400A	☐
	9	200108322	WO	A1	2001-02-01	Simonsson et al.		☐
	10	200184740	WO	A2	2001-11-08	Zeira et al.		☐
	11	2003010903	WO	A1	2003-02-06	Okumura et al.		☐
	12	2003036816	WO	A1	2003-05-01	Anderson		☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	"Recommendation ITU-R M.1225: Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000," International Telecommunication Union/ITU Radiocommunication Sector, January 1, 1997, Rec. ITU-R M.1225, pp. 1-61.	☐
	2	Communication pursuant to Article 94(3) EPC from European Patent Application No. 05 801 370.7-1246 dated December 30. 2009.	☐

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	3	European Search Report Dated December 2, 2010 from European Application No. 10185576.5- 1246.	☐
	4	Great Britain Search Report mailed May 14, 2002, for Great Britain Application No. 0125504.1 filed October 24, 2001, 1 page.	☐
	5	International Search Report mailed December 22, 2005, for PCT Application No. PCT/EP2005/053931 filed August 10, 2005, 4 pages.	☐
	6	International Search Report mailed January 21, 2003, for PCT Application No. PCT/GB02/04811 filed October 24, 2002, 3 paqes.	☐
	7	Office Action for Japanese Application No. 2007-525302, issued March 13, 2012 (A copy of the office action and its English machine translation have been provided).	☐
	8	THIRD GENERATION PARTNERSHIP PROJECT, Technical Specification Group Radio Access Network; Feasibility Study on Uplink Enhancements for UTRA TDD; (Release 6); 3GPP TR 25.804 V6.0.0 (2005-03)	☐
	9	NON-FINAL REJECTION, U.S. Patent Application No. 13/726,976, dated May 22, 2014.	☐
	10	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	☐
	11	OFFICE ACTION, Japanese Patent Application No. 2011-234218, dated December 6, 2012.	☐
	12	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated June 18, 2014.	☐
	13	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated January 8, 2010.	☐

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	Filing Date	2012-12-26
	First Named Inventor	Nicholas W. Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

	14	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated March 31, 2009.	☐
	15	FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated August 1, 2008.	☐
	16	REQUIREMENT FOR RESTRICTION/ELECTION, U.S. Patent Application No. 10/917,968, dated March 19, 2008.	☐
	17	NON-FINAL REJECTION, U.S. Patent Application No. 10/917,968, dated July 2, 2007.	☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	13727153
	Filing Date	2012-12-26
	First Named Inventor	Nicholas W. Anderson
	Art Unit	2647
	Examiner Name	Dominic E. Rego
	Attorney Docket Number	IPW2-USCN196553

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

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☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☐ A certification statement is not submitted herewith.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Harry Vartanian/	Date (YYYY-MM-DD)	2014-08-25
Name/Print	Harry Vartanian	Registration Number	56,787

This collection of information is required by 37 CFR 1.97 and 1.98. 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 1 hour 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Patent Application Fee Transmittal	
Application Number:	13727153
Filing Date:	26-Dec-2012
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Harry Vartanian/Carey Kulp
Attorney Docket Number:	IPW2-USCN196553
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
		Total in USD ($)		**180**

Electronic Acknowledgement Receipt	
EFS ID:	19934123
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Carey Kulp
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Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	25-AUG-2014
Filing Date:	26-DEC-2012
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Application Type:	Utility under 35 USC 111(a)

Payment information:

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RAM confirmation Number	1064
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1	Other Reference-Patent/App/Search documents	191629_Aug2008.pdf	812973 86a238d415e63f403b156b7d6b85ffb8832fedc6	no	22
Warnings:					
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2	Other Reference-Patent/App/Search documents	191629_Jan2010.pdf	991101 47fd97c527d8b568d2664aa9cc4dfe53ea4e1daf	no	26
Warnings:					
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3	Other Reference-Patent/App/Search documents	191629_July2007.pdf	468325 8a6ddd33245b2012260b58cb6b8216d0aeedfdb9	no	13
Warnings:					
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5	Other Reference-Patent/App/Search documents	191629_Mar2008.pdf	242918 b2678b18ed8ed54e653755f7d95ee1132f4385e4	no	7
Warnings:					
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6	Other Reference-Patent/App/Search documents	191629_Mar2009.pdf	710440 5cd0fa7f99fb66c46fbc78cff88996e81ea3fa95	no	20
Warnings:					
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7	Other Reference-Patent/App/Search documents	196552_May2014.pdf	261516 e43137a4b6141a06fb2619b53ae9185fba2bd2cf	no	7
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10	Transmittal Letter	IDS.pdf	59394 9baf6bb46d07138f451b23fd0309c792b8312cea	no	2
Warnings:					
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11	Information Disclosure Statement (IDS) Form (SB08)	SB08.pdf	668492 8aaf86a1f023a9ccd28681943d0945cc41334585	no	9
Warnings:					
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12	Fee Worksheet (SB06)	fee-info.pdf	30306 f66e958e45998aa150adc5c62dd8e4b087586fb7	no	2
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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:	
Nicholas William Anderson	
Application No.: 13/727,153	
Confirmation No.: 1320	
Filed: December 26, 2012	
For: POWER CONTROL IN A WIRELESS NETWORK	
Group: 2647	
Examiner: Dominic E. Rego	

Our File: IPW2-USCN196553
Date: August 25, 2014

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment (via EFS)
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Further to Applicant's Duty of Disclosure pursuant to 37 C.F.R. §1.56, Applicant wishes to bring to the Examiner's attention the material cited on the enclosed SB-08 Form.

Pursuant to 37 C.F.R. §1.98(d) copies of documents cited in the parent application are not enclosed, but copies will be provided upon request. Newly cited documents are indicated by an asterisk (*) on the enclosed PTO-SB-08 Form. Copies of the newly cited documents are enclosed. Pursuant to 37 C.F.R. §1.98(a)(2)(ii), copies of the newly cited U.S. publications and/or patent documents have not been included.

This Application is a continuation of U.S. Patent Application No. 10/917,968, filed August 12, 2004. Applicant would like to bring the following Application to the Examiner's attention: U.S. Patent Application No. 13/726,976, filed December 26, 2012.

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the SB-08 Form indicating consideration of the cited materials.

Respectfully submitted,

Nicholas William Anderson

By /Harry Vartanian/
Harry Vartanian
Registration No. 56,787
(215) 568-6400

Volpe and Koenig, P.C.
United Plaza
30 South 17th Street
Philadelphia, PA 19103

HV/PCK
Enclosures (10)

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	13/727,153	ANDERSON, NICHOLAS W.	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : 8/21/14	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

jean proctor

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PTO/AIA/25 (04-13)
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TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING REJECTION OVER A PENDING "REFERENCE" APPLICATION	Docket Number (Optional) IPW2-USCN196553

In re Application of: Intellectual Ventures Holding 81 LLC

Application No.: 13/727,153

Filed: December 26, 2012

For: POWER CONTROL IN A WIRELESS NETWORK

The applicant, Intellectual Ventures Holding 81 LLC, owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** Application Number 13/726,976, filed, December 26, 2012, as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent granted on the pending **reference** application expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☑ The undersigned is an attorney or agent of record. Reg. No. 56,787

/Harry Vartanian/	August 21, 2014
Signature	Date
Harry Vartanian	
Typed or printed name	
	215-568-6400
Title	Telephone Number

☑ Terminal disclaimer fee under 37 CFR 1.20(d) is included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

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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.
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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.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of: Intellectual Ventures Holding 81 LLC **Application No.:** 13/727,153 **Confirmation No.:** 1320 **Filed:** December 26, 2012 For: POWER CONTROL IN A WIRELESS NETWORK Group: 2647 Examiner: Dominic E. Rego	Our File: IPW2-USCN196553 Date: August 21, 2014

RESPONSE PURSUANT TO 37 C.F.R. §1.111

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

This Response and Terminal Disclaimer are being timely filed in response to the Non-Final Office Action dated May 22, 2014.

Please amend the application without prejudice or disclaimer as follows:

Amendments to the Claims:

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

1. (Currently Amended) A method performed by a wireless network, the method comprising:

transmitting, by the wireless network on a single downlink physical channel, a signal having both uplink resource allocation information and a multilevel transmit power command;

receiving, by a user equipment (UE), the ~~single downlink physical channel and the~~ signal;

transmitting, by the UE on an uplink channel, an uplink signal ~~on an uplink channel based on~~ in association with the uplink resource allocation information, wherein a transmission power level of the uplink signal is based on the multilevel transmit power command, a determined pathloss, and a format of the uplink signal ~~on the uplink channel~~; and

receiving, by the wireless network on the uplink channel, the uplink signal ~~on the uplink channel~~.

2. (Currently Amended) The method of claim 1, wherein the uplink channel is an uplink shared channel.

3. (Original) The method of claim 1 further comprising:

accumulating, by the UE, a plurality of multilevel transmit power commands.

4. (Original) The method of claim 1 further comprising:

transmitting, by the wireless network, a parameter;

receiving, by the UE, the parameter; and

determining, by the UE, whether to accumulate transmit power commands in response to the parameter.

5. (Currently Amended) The method of claim 1, wherein the wireless network and the UE utilize code division multiple access (CDMA).

6. (Currently Amended) A wireless network, the wireless network characterized in that ~~comprising~~:

a network device comprising:

circuitry configured to transmit, on a single downlink physical channel, a signal having both uplink resource allocation information and a multilevel transmit power command; and

circuitry configured to receive an uplink signal; and

a user equipment (UE) comprising:

circuitry configured to receive the signal ~~single downlink physical channel~~; and

circuitry configured to transmit, on an uplink channel, the uplink signal ~~on an uplink channel based on~~ in association with the uplink resource allocation information; and

wherein a transmission power level of the uplink signal is based on the multilevel transmit power command, a determined pathloss, and a format of the uplink signal ~~on the uplink channel~~.

7. (Currently Amended) The wireless network of claim 6, wherein the uplink channel is an uplink shared channel.

8. (Currently Amended) The wireless network of claim 6, wherein the UE further comprises:

circuitry configured to accumulate a plurality of multilevel transmit power commands.

9. (Currently Amended) The wireless network of claim 6, characterized in that ~~wherein~~:

the wireless network is further ~~comprises circuitry~~ configured to transmit a parameter; and

the UE further comprises:

the circuitry is further configured to receive the parameter; and

circuitry configured to determine whether to accumulate transmit power commands in response to the parameter.

10. (Currently Amended) The wireless network of claim 6, wherein the wireless network and the UE utilize code division multiple access (CDMA).

11. (NEW) The method of claim 1, wherein the single downlink physical channel or the uplink channel is each associated with a spreading factor or a code division multiple access (CDMA) code.

12. (NEW) The method of claim 1, wherein the wireless network or the UE is a time division duplex (TDD) device.

13. (NEW) The wireless network of claim 6, wherein the single downlink physical channel or the uplink channel is each associated with a spreading factor or a code division multiple access (CDMA) code.

14. (NEW) The wireless network of claim 6, wherein the network device or the UE is a time division duplex (TDD) device.

REMARKS/ARGUMENTS

After the foregoing Amendment, claims 1-14 are currently pending in this application. Claims 1, 2, and 5-10 are amended. New claims 11-14 are added.

Request for an Interview

If any of the claims submitted herewith will be rejected by the Examiner, the Applicant respectfully requests a telephonic interview.

Examiner Interview

Applicant thanks the Examiner for granting a telephonic interview with the Applicant's representative on June 10, 2014. We refer to Examiner Interview Summary mailed on June 16, 2014 as to the substance of the telephonic interview. In particular, the 35 U.S.C. §112 rejection of claim 1 was discussed. Applicant notes that nothing was conceded during such interview.

Specification

The Examiner stated that new subject matter was introduced in the abstract filed on December 26, 2012. Applicant respectfully disagrees. The abstract is fully supported since it is substantially based on claims 1 and 6. The support for claims 1 and 6, and thus the abstract, will be explained below. Thus, the status of this application is appropriately a continuation of 10/917,968.

Double Patenting Rejection

Claims 1-10 are rejected under the judicially created doctrine of non-statutory obviousness-type double patenting as being unpatentable over claims 1-10 of co-pending U.S. Patent Application No. 13/726,976. A Terminal Disclaimer is submitted herewith to overcome the non-statutory double patenting rejection. Accordingly, withdrawal of the non-statutory double patenting rejection is respectfully requested.

Claim Rejections - 35 U.S.C. §112 1st Paragraph

Claims 1 and 6 are rejected under 35 U.S.C. §112(a) or 35 U.S.C. §112 (pre-AIA), 1st Paragraph as failing to comply with the written description requirement. Applicant respectfully disagrees with the rejection. With respect to amended claim 1, support may **at least be found** in U.S. Pat. Publication No. 2013/0114541 (pre-grant publication of the present application):

- figure 3, in particular items 314, 316, 318, 320, 322, 300, 302, or 304;

- paragraph [0014] "...determining a path loss of a radio channel between a base station and a remote transceiver; receiving a transmit power control (TPC) command transmitted to the remote transceiver from the base station;"

- paragraph [0015] "...power control in a radio communications system, the method comprising: receiving a signal at a second transceiver transmitted

from a first transceiver; measuring a power level of the received signal; receiving a transmit power control (TPC) command at the second transceiver transmitted from the first transceiver;"

- paragraph [0057] "an open loop component may be located in the UE and driven by measured beacon received power levels and path loss calculations;"

- paragraph [0087] "...a Node-B or RNC may be implemented with a new parameter, either included in a signaling command or a broadcast message, where the new parameter instructs a UE to enable or disable the setting of uplink transmit power level based on both the path loss estimation and the TPC commands. A parameter may indicate whether a UE is to use open loop power control, closed loop power control or a combined scheme;"

- paragraph [0061] "[t]hus, for the current frame k, the UE may calculate the transmit power $P_{Tx}(k)$ as shown below where K is the initial frame number determined when the power control process begins; TPCi is -1 for a down TPC command, +1 for an up TPC command and 0 if no TPC command is received; and step is the magnitude of the amount added to an accumulator upon receipt of each TPC command. The transmit power $P_{Tx}(k)$ may be updated for every frame period. Alternatively, the transmit power $P_{Tx}(k)$ may be updated each time a new TPC command is received. Alternatively, the transmit power $P_{Tx}(k)$ may be updated only when either a TPC command or a new power level is received from the network.

$$P_{Tx}(k) = P_{open(k)} + \text{step} \cdot \sum_{i=k-K}^{k} TPC_i + y_{SF} + \beta_{TPC}$$

;"

- paragraph [0058] "...a multi-level TPC command may be used;"

- paragraph [0086] "[i]n a system using the combined power control scheme, a new physical channel on the downlink may be used to carry fast allocation and scheduling information to a user, thereby informing the UE of the uplink resources that it may use. This new physical channel could also be used as the feedback channel for the combined power control

scheme. For example, an allocation/scheduling channel could carry TPC commands;" **or**

- paragraph [0060] "[a]n optional auxiliary process in the UE adjusts the transmit power based upon: (a) γ_{SF}, the spreading factor (SF) of the physical channel; and (b) β_{TFC}, the selected transport format (TFC)."

The support above is roughly given in the order of claim elements expressed in amended claim 1. Amended claim 6 is also supported at least by the above paragraphs and figure 3. Based on the arguments presented above, withdrawal of the 35 U.S.C. §112 1st Paragraph rejection of claims 1 and 6 is respectfully requested.

Conclusion

It should also be noted that although arguments have been presented with respect to certain claims herein, the recited subject matter as well as various other subject matter and/or combinations of subject matter may be patentable for other reasons. Further, the failure to address any statement by the Examiner herein should not be interpreted as acquiescence or agreement with such statement. The Applicant expressly reserves the right to set forth additional and/or alternative reasons for patentability and/or allowance with the present application or in any other future proceeding, and to rebut any statement presented by the Examiner in this or other papers during prosecution of the present application.

If the Examiner believes that any additional minor formal matters need to be addressed in order to place this application in condition for allowance, or that a telephonic interview will help to materially advance the prosecution of this application, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

In view of the foregoing, Applicant respectfully submits that the present application, including claims 1-14, is in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,

Intellectual Ventures Holding 81 LLC

By: /Harry Vartanian/
Harry Vartanian
Registration No. 56,787

Volpe and Koenig, P.C.
United Plaza
30 South 17th Street
Philadelphia, PA 19103-4009
Telephone: (215) 568-6400
Facsimile: (215) 568-6499
HV/eam

Electronic Patent Application Fee Transmittal	
Application Number:	13727153
Filing Date:	26-Dec-2012
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Filer:	Harry Vartanian/Elizabeth McGinty
Attorney Docket Number:	IPW2-USCN196553
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
Statutory or Terminal Disclaimer	1814	1	160	160
		Total in USD ($)		**160**

Electronic Acknowledgement Receipt	
EFS ID:	19932800
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas W. Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Elizabeth McGinty
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	21-AUG-2014
Filing Date:	26-DEC-2012
Time Stamp:	18:02:04
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$160
RAM confirmation Number	4545
Deposit Account	220493
Authorized User	VARTANIAN, HARRY
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer Filed	IPW2-USCN196553-TerminalDisclaimer-20140821.PDF	246783 9c9a0aef80ce41646639b7345448ee2e402eecc6	no	2
Warnings:					
Information:					
2		IPW2-USCN196553-NonFinalResponse-20140821.PDF	101538 d503f5b5d31c2b1557b1ff635b1f6c5fd03c273d	yes	10

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Amendment/Req. Reconsideration-After Non-Final Reject	1	1
Claims	2	5
Applicant Arguments/Remarks Made in an Amendment	6	10

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30438 0c1d0580881cb2d25a93cd33392886 3856c9a257	no	2
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 13/727,153	Filing Date 12/26/2012	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	08/21/2014	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 2	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

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LIE
/JACQUELYN WILLIAMS/

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

3624 7590 06/16/2014

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2647	

NOTIFICATION DATE	DELIVERY MODE
06/16/2014	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eoffice@volpe-koenig.com

Applicant-Initiated Interview Summary	Application No.	Applicant(s)	
	13/727,153	ANDERSON, NICHOLAS W.	
	Examiner	Art Unit	
	DOMINIC E. REGO	2647	

All participants (applicant, applicant's representative, PTO personnel):

(1) *DOMINIC E. REGO*. (3)_____.

(2) *Harry Vartanian, Reg. 56,787*. (4)_____.

Date of Interview: *6/10/2014*.

Type: ☒ Telephonic ☐ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☒ No.
If Yes, brief description: _____.

Issues Discussed ☐101 ☒112 ☐102 ☐103 ☐Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: *1 and 6*.

Identification of prior art discussed: *N/A*.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

Discussed 112 1st rejection that was mailed on 05/22/2014 and the Examiner asked for details explanation of 112 1st rejection when reply to this office action files.

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/DOMINIC E REGO/ Primary Examiner, Art Unit 2647	

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

———

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

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United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553	1320

3624 7590 05/22/2014

VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER	
REGO, DOMINIC E	
ART UNIT	PAPER NUMBER
2647	

NOTIFICATION DATE	DELIVERY MODE
05/22/2014	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

eoffice@volpe-koenig.com

Office Action Summary	Application No. 13/727,153	Applicant(s) ANDERSON, NICHOLAS W.	
	Examiner DOMINIC E. REGO	Art Unit 2647	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/26/2012*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ 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.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *1-10* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-10* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, 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.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *12/26/2012* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

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

DETAILED ACTION

Specification

2. In this application, Applicant introduced a new subject matter in the abstract in comparison with the parent application filed 08/12/2004 and put this subject matters to all of the independent claims. The Examiner requested to delete and restate the original subject matters from the abstract of the parent application. Another option, applicant can change the status of this application from "**Continuation"** to "**Continuation-in-part**" since Applicant introduces a new subject matter in the abstract. The Examiner draws attention to abstract of the continuation application with the parent application, which are:

Continuation Application, 13/727153

Abstract: "A wireless network for allocating resources and controlling transmit power is provided. Uplink resource allocation information and a multilevel transmit power command is sent to a user equipment (UE) on a single downlink physical channel. In response to the information, the UE sends information on an uplink channel".

Parent Application, 10/917968,

Abstract: "A method, system and apparatus for setting a transmit power control level in a wireless communication system. Aspects of both open loop and closed loop transmit power control schemes are used to determine a transmit power level. A method includes measuring a power level of a received signal, receiving a transmit power control (TPC) command, and calculating a transmit power level based on the power level of the received signal and the TPC command".

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1 and 6 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 1 and 6, Applicant recites the limitations "transmitting, by the wireless network on a single downlink physical channel, a signal having both uplink resource allocation information and a multilevel transmit power command, receiving, by a user equipment (UE), the single downlink physical channel and the signal, transmitting, by the UE, an uplink signal on an uplink channel based on the uplink resource allocation information, wherein a transmission power level of the uplink signal is based on the multilevel transmit power command, a determined

pathloss, and a format of the uplink signal on the uplink channel; and receiving, by the wireless network, the uplink signal on the uplink channel". The Examiner states that above underlying parts are not found in the specification.

Double Patenting

6. 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.

7. Claims 1-10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of co-pending application #13/726976. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOMINIC E. REGO whose telephone number is (571)272-8132. The examiner can normally be reached on Monday-Friday, 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay A. Maung can be reached on 571-272-7882. 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.

/DOMINIC E REGO/
Primary Examiner, Art Unit 2647
Tel 571-272-8132

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	149	(nicholas near2 anderson).in.	US-PGPUB; USPAT	OR	ON	2014/05/18 08:27
L2	88	(intellectual near2 ventures near2 holding).as.	US-PGPUB; USPAT	OR	ON	2014/05/18 08:27
L3	2	((down$link forward$link forward near2 link) near5 (physical near2 channel) same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) with power near2 level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2014/05/18 08:41
L4	2	((down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) same power near2 level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2014/05/18 08:42
L5	2	(resource with allocat$3 same power with command$3 same power with level same (path$loss path near2 loss)).clm.	US-PGPUB; USPAT	OR	ON	2014/05/18 08:44
L6	2	5 AND ((H04W52/06 OR H04W52/08 OR H04W52/10 OR H04W52/12 OR H04W52/221 OR H04W52/24 OR H04W52/242 OR H04W52/243 OR H04W72/0473).CPC.)	US-PGPUB; USPAT	OR	ON	2014/05/18 08:44
L7	2	(down$link forward$link forward near2 link) near5 (physical near2 channel) same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) with power near2 level same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:01
L8	2	(down$link forward$link forward near2 link) with channel same resource near5 allocat$3 same power with command$3 same (up$link reverse$link reverse near link) same power near2 level same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:01
L9	32556	455/522,68-70,115.3,126,135,226.3,277.2,422.1,450-453,456.2,464,509,510.ccls. 370/318.ccls.	US-PGPUB; USPAT	OR	ON	2014/05/18 09:02
L10	8530	(down$link forward$link forward near2 link) near5 (physical near2 channel)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:03
L11	1419	10 same resource near5 allocat$3	US-PGPUB; USPAT	OR	ON	2014/05/18 09:04
L12	211	11 same (power near3 command$3 tpc)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:04

L13	2	12 same (up$link reverse$link reverse near link) with power near2 level	US-PGPUB; USPAT	OR	ON	2014/05/18 09:05
L14	2	12 same power near2 level	US-PGPUB; USPAT	OR	ON	2014/05/18 09:05
L15	46085	(physical near2 channel)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:15
L16	1106	15 same (up$link reverse$link reverse near link) with resource near3 allocat$3	US-PGPUB; USPAT	OR	ON	2014/05/18 09:16
L17	169	16 same (power near3 command$3 tpc)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:16
L18	2	17 same power near2 level	US-PGPUB; USPAT	OR	ON	2014/05/18 09:17
L19	4	17 same (path$loss path near2 loss)	US-PGPUB; USPAT	OR	ON	2014/05/18 09:17
S1	1	13/727153	US-PGPUB; USPAT	OR	ON	2014/05/17 18:50

5/ 18/ 2014 9:17:48 AM
C:\ Users\ drego\ Documents\ EAST\ Workspaces\ 13726976.wsp

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BIB DATA SHEET

CONFIRMATION NO. 1320

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
13/727,153	12/26/2012	455	2647	IPW2-USCN196553

APPLICANTS
INTELLECTUAL VENTURES HOLDING 81 LLC, Las Vegas, NV

INVENTORS
Nicholas W. Anderson, Bristol, UNITED KINGDOM;

**** CONTINUING DATA **************************
This application is a CON of 10/917,968 08/12/2004

**** FOREIGN APPLICATIONS **************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****
01/23/2013

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged /DOMINIC E REGO/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		UNITED KINGDOM	4	10	2

ADDRESS
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103
UNITED STATES

TITLE
POWER CONTROL IN A WIRELESS NETWORK

FILING FEE RECEIVED		
1390	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	**Art Unit**
	DOMINIC E REGO	2647

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	05/17/2014								
	1	✓								
	2	✓								
	3	✓								
	4	✓								
	5	✓								
	6	✓								
	7	✓								
	8	✓								
	9	✓								
	10	✓								

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	13727153	ANDERSON, NICHOLAS W.
	Examiner	Art Unit
	DOMINIC E REGO	2647

CPC- SEARCHED		
Symbol	Date	Examiner
H04W 72/0473	5/18/2014	DR
H04W 52/24	5/18/2014	DR
H04W 52/242	5/18/2014	DR
H04W 52/08	5/18/2014	DR
H04W 52/10	5/18/2014	DR
H04W 52/12	5/18/2014	DR
H04W 52/221	5/18/2014	DR
H04W 52/248	5/18/2014	DR

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
455	522, 68-70, 115.3, 126, 135, 226.3, 277.2, 422.1, 450-453, 456.2, 464, 509, 510	5/17/2014	DR
370	318	5/17/2014	DR

SEARCH NOTES		
Search Notes	Date	Examiner
EAST, Inventor, and Assignee Search	5/17/2014	DR

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/727,153	12/26/2012	Nicholas W. Anderson	IPW2-USCN196553

CONFIRMATION NO. 1320

3624
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

PUBLICATION NOTICE

OC000000061096161

Title:POWER CONTROL IN A WIRELESS NETWORK

Publication No.US-2013-0114541-A1
Publication Date:05/09/2013

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/727,153	12/26/2012	2473	1390	IPW2-USCN196553	10	2

CONFIRMATION NO. 1320

REPLACEMENT FILING RECEIPT

3624
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

OC000000060176012

Date Mailed: 04/09/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Nicholas W. Anderson, Bristol, UNITED KINGDOM;

Applicant(s)

Intellectual Ventures Holding 81 LLC, Las Vegas, NV

Assignment For Published Patent Application

INTELLECTUAL VENTURES HOLDING 81 LLC, Las Vegas, NV

Power of Attorney: The patent practitioners associated with Customer Number 3624

Domestic Priority data as claimed by applicant

This application is a CON of 10/917,968 08/12/2004

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 01/23/2013
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/727,153**
Projected Publication Date: 05/09/2013
Non-Publication Request: No
Early Publication Request: No

Title

POWER CONTROL IN A WIRELESS NETWORK

Preliminary Class

370

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/727,153	12/26/2012	Nicholas William Anderson	IPW2-USCN196553

CONFIRMATION NO. 1320

3624
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

POA ACCEPTANCE LETTER

OC000000060175970

Date Mailed: 04/09/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/25/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/hsarwari/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/AIA/80 (07-12)
Approved for use through 11/30/2014. OMB 0651-0035
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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

■ Practitioners associated with Customer Number: 3624

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

■ The address associated with Customer Number: 3624

OR

☐

Firm or Individual Name			
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address: Intellectual Ventures Holding 81 LLC
7251 W. Lake Mead Blvd.
Suite 300
Las Vegas, NV 89128

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be Filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of The practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	5 March 2013
Name	Jeremy Sanders	Telephone	
Title	Authorized Person for Intellectual Ventures Holding 81 LLC		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. 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 1.11 and 1.14. This collection is estimated to take 3 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

DECLARATION REGARDING AUTHORITY TO SIGN ON BEHALF OF A LEGAL ENTITY
(37 C.F.R. 3.73)

I, Jeremy Sanders (whose title is supplied below), hereby declare that I am authorized to sign and act on behalf of Intellectual Ventures Holding 81 LLC in accordance with 37 C.F.R. 3.73(d)(1).

Jeremy Sanders, Authorized Person for Intellectual Ventures Holding 81 LLC

5 March 2013
[date]

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Intellectual Ventures Holding 81 LLC

Application No./Patent No.: 13/727,153 Filed/Issue Date: December 26, 2012

Titled: POWER CONTROL IN A WIRELESS NETWORK

Intellectual Ventures Holding 81 LLC, a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Nicholas William Anderson To: IPWireless, Inc.

   The document was recorded in the United States Patent and Trademark Office at

   Reel 015474, Frame 0248, or for which a copy thereof is attached.

2. From: IPWireless, Inc. To: Northrop Grumman Information Technology, Inc.

   The document was recorded in the United States Patent and Trademark Office at

   Reel 022102, Frame 0891, or for which a copy thereof is attached.

This collection of information is required by37 CFR3.73(b). The information is required toobtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentialityis governed by35 U.S.C. 122and 37 CFR1.11 and1.14. Thiscollection is estimated to take 12 minutes to complete, including gathering, preparing, and submittingthe 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 tothe Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.**SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: Northrop Grumman Information Technology, Inc. To: IPWireless, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 024006, Frame 0144, or for which a copy thereof is attached.

4. From: IPWireless, Inc. To: Wireless Technology Solutions LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 024305, Frame 0492, or for which a copy thereof is attached.

5. From: Wireless Technology Solutions LLC To: IPWireless, Inc.

The document was recorded in the United States Patent and Trademark Office at
Reel 027910, Frame 0649, or for which a copy thereof is attached.

6. From: IPWireless, Inc. To: Intellectual Ventures Holding 81 LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 028175 & 029828, Frame 0237 & 0412, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Jeremy Sanders/	March 5, 2013
Signature	Date
Jeremy Sanders	Authorized Person for Intellectual Ventures Holding 81 LLC
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

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

The informationprovided 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.
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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 informationin 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 InternationalApplication 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, arecord 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 thissystem 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.

PTO/AIA/01 (09-12)
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	POWER CONTROL IN A WIRELESS NETWORK

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 13/727,153 filed on December 26, 2012.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Nicholas W. ANDERSON Date (Optional): 19th March 2013

Signature: [signature]

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. 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 1.11 and 1.14. This collection is estimated to take 1 minute 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	15343687
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Nicholas William Anderson
Customer Number:	3624
Filer:	Harry Vartanian/Elizabeth McGinty
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	25-MAR-2013
Filing Date:	26-DEC-2012
Time Stamp:	16:38:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	IPW2-USCN196553_SignedPOA.PDF	834938 11fca82f5783e81c213e3ef8054845772d418dbd	no	1

Warnings:	
Information:	

2	Assignee showing of ownership per 37 CFR 3.73.	IPW2-USCN196553_SignedAuthorization.PDF	223930 23bcf7f883ebb020ac67b895e9a41eb8998bd8a6	no	1
Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73.	IPW2-USCN196553_373cStatement.PDF	143399 a5889029fef1b9dbee1dce12dac915aaf4efe262	no	3
Warnings:					
Information:					
4	Oath or Declaration filed	IPW2-USCN196553_SignedDeclaration-Anderson.PDF	1541934 e61c60b7d4d484e83029c93c81bc07a228a7b79b	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	2744201		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 13/727,153

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	390
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	620
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	250
TOTAL CLAIMS (37 CFR 1.16(i))	10 minus 20 =	*			OR	x 62 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	*				x 250 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1260

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/727,153	12/26/2012	Nicholas William Anderson	IPW2-USCN196553

CONFIRMATION NO. 1320

3624
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

NOTICE

OC000000058826186

Date Mailed: 01/29/2013

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  Nicholas William Anderson
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
13/727,153	12/26/2012	2649	1390	IPW2-USCN196553	10	2

CONFIRMATION NO. 1320

3624
VOLPE AND KOENIG, P.C.
UNITED PLAZA
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

FILING RECEIPT

OC0000000588261 85

Date Mailed: 01/29/2013

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Inventor(s)
Nicholas William Anderson, Bristol, UNITED KINGDOM;

Applicant(s)
Intellectual Ventures Holding 81 LLC, Las Vegas, NV

Assignment For Published Patent Application
INTELLECTUAL VENTURES HOLDING 81 LLC, Las Vegas, NV

Power of Attorney: None

Domestic Priority data as claimed by applicant
This application is a CON of 10/917,968 08/12/2004

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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Non-Publication Request: No
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Title

POWER CONTROL IN A WIRELESS NETWORK

Preliminary Class

455

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POWER CONTROL IN A WIRELESS NETWORK

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a continuation of U.S. Patent Application Serial No. 10/917,968, filed August 12, 2004, which is incorporated by reference as if fully set forth.

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0002] This invention relates to power control in a mobile radio system or wireless communication system, and more particularly, to controlling received power levels in a code division multiple access (CDMA) radio system.

2. Description of the Prior Art

[0003] Typically, radio signals transmitted with increased power result in fewer errors when received than signals transmitted with decreased power. Unfortunately, signals transmitted with excessive power may interfere with the reception of other signals sharing the radio link. Wireless communication systems employ power control schemes to maintain a target error rate of a signal received on a radio link.

[0004] If a received signal includes a rate of errors far above a target error rate, the received signal may result in an undesirable effect on a delivered service. For example, excessive errors may lead to broken voice during voice calls, low throughput over data links, and glitches in displayed video signals. On the other hand, if the received signal includes a rate of errors well below the target error rate, the mobile radio system is not efficiently using its radio resources. A very low error rate may

mean that a signal is transmitted with an excessive level of power and that user could be provided a higher data rate. Alternatively, if the power level of a signal is sufficiently reduced, additional users may be serviced. If data rates are increased, a user may receive a higher level of service. Therefore, if a target error rate for each user is met within a tolerance threshold, a radio resource may be more optimally used.

[0005] A wireless communication system often employ one of either an open loop scheme or a closed loop scheme to control uplink transmit power of a mobile radio. Uplink typically refers to the radio link from a mobile radio to a base station, where as the downlink typically refers to the link from the base station to the mobile radio. A mobile radio is not necessarily mobile and may also be referred to as a mobile, a user, user equipment (UE), a terminal or terminal equipment. A base station may also be referred to as a Node-B.

[0006] The error rate is related to a received signal to noise-plus-interference ratio (SNIR); a higher SNIR generally results in a lower error rate; and conversely, a lower SNIR generally results in a higher error rate. The exact relationship between SNIR and error rate, however, is often a function of several factors including radio channel type and the speed at which a mobile is travelling.

[0007] A target error rate is often reached using a two stage process, which includes an outer loop and an inner loop. A first process may operate as an outer loop and may be tasked to adjust a target received SNIR (SNIR Target). This first process tracks changes in the relationship between SNIR and error rate. The outer loop sets an SNIR Target that is generally used several times by the inner loop. Periodically, the outer loop may adjust or update this SNIR Target used by the inner loop. For example, if an actual error rate exceeds a desired error rate, the outer loop may increase the value of the SNIR Target.

[0008] A second process operates as an inner loop and tries to force the link to exhibit the SNIR Target determined by the outer loop. The inner loop may operate by closed loop or by open loop means.

[0009] In the open loop method of the inner loop process, a UE uses an SNIR Target value that is derived by the network and signalled to the UE. The inner loop running in the UE attempts to maintain the SNIR Target. The UE uses the information signalled to it and monitors the received strength of signals it receives to determine a power level at which it will transmit. Advantageously, this open loop method compensates for fast channel fading by determining the path loss on a per frame bases and by adjusting the transmit power accordingly. Unfortunately, this open loop method is relatively slow at compensating for changes due to interfering signals from other transmitters.

[0010] In the closed loop method of the inner loop process, a closed loop scheme operates to match an SNIR Target. A received SNIR measurement is made by the network on an uplink signal. The SNIR measurement is compared within the network to the SNIR Target value. The inner loop drives the system to match the SNIR Target by issuing transmit power control commands from the network to a UE. The commands instruct the UE to increase or decrease its transmitted power by a predetermined step dB amount. Unfortunately, such closed loop methods demand a very high command update rate to adequately compensate for fast channel fading because of the single-dB-step commands used. At slower update rates, fast channel fading is not tracked adequately since a large number of iterations and long delays are needed to compensate for a change in power that is substantially larger than the dB-step value.

[0011] Both the closed loop scheme and the open loop scheme have their disadvantages. Therefore, an improved method and system are needed that better

balances the conflicting goals of reducing errors in a received signal while also reducing interference imposed on signals received at other receivers. An improved method and system are also needed to better reduce the overall residual SNIR fluctuations experienced by each users signal at a receiver.

BRIEF SUMMARY OF THE INVENTION

[0012] Some embodiments provide a method of power control in a radio communications system, the method comprising: determining a path loss of a radio channel between a base station and a remote transceiver; receiving a transmit power control (TPC) command transmitted to the remote transceiver from the base station; and calculating a transmit power level for the remote transceiver based on the path loss and the TPC command.

[0013] Some embodiments provide a method of power control in a radio communications system, the method comprising: receiving a signal at a second transceiver transmitted from a first transceiver; measuring a power level of the received signal; receiving a transmit power control (TPC) command at the second transceiver transmitted from the first transceiver; and calculating a transmit power level for the second transceiver based on the power level of the received signal and the TPC command.

[0014] Some embodiments provide a method of uplink power control in a CDMA radio communications system, the method comprising: receiving an uplink signal; determining an error metric of the uplink signal; updating an SNIR target based on the error metric; measuring a received SNIR of the uplink signal; comparing the measured received SNIR with the SNIR target; assigning a first value to a step indicator if the measured received SNIR is greater than the SNIR target, and assigning a second value to a step indicator if the measured received SNIR is less than the SNIR target;

transmitting a transmit power control (TPC) command instructing a transmitter to adjust an uplink transmit power level based on the step indicator; receiving the TPC command including the step indicator; accumulating the step indicator value; broadcasting a downlink signal including an indication of a downlink power level, wherein the signal is transmitted at the downlink power level; measuring the received power of the downlink signal; and setting a transmit power level base on the received power level, the indication of the downlink power level, and the accumulated step indicator value.

[0015] Some embodiments provide a method comprising: measuring a power level of a received signal; receiving a transmit power control (TPC) command; and calculating a transmit power level based on the power level of the received signal and the TPC command.

[0016] Some embodiments provide a radio comprising: a receiver including an output to provide a measured received power level; an accumulator having an input for accepting step increase and decrease instructions and an output providing a sum of past step instructions; a power level setting circuit coupled to the accumulator output and coupled to the receiver output, wherein the power level setting circuit sets a transmit power bases on the accumulator output and the measured received power level; and a transmitter, wherein the transmitter transmits a signal at the set transmit power.

[0017] Other features and aspects of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings which illustrate, by way of example, the features in accordance with embodiments of the invention. The summary is not intended to limit the scope of the invention, which is defined solely by the claims attached hereto.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] FIGURE 1 shows a block diagram of a wireless communication system.

[0019] FIGURE 2 illustrates a wireless communication system using an open loop scheme.

[0020] FIGURE 3 illustrates a wireless communication system using a closed loop scheme.

[0021] FIGURE 4 illustrates a wireless communication system using elements of both open loop and closed loop schemes, in accordance with the present invention.

[0022] FIGURES 5A, 5B and 5C each illustrate a simulated probability density function of the received SNIR in the network.

DETAILED DESCRIPTION OF THE INVENTION

[0023] In the following description, reference is made to the accompanying drawings which illustrate several embodiments of the present invention. It is understood that other embodiments may be utilized and mechanical, compositional, structural, electrical and operational changes may be made without departing from the spirit and scope of the present disclosure. The following detailed description is not to be taken in a limiting sense, and the scope of the embodiments of the present invention is defined by the claims of the issued patent.

[0024] Some portions of the detailed description which follows are presented in terms of procedures, steps, logic blocks, processing, and other symbolic representations of operations on data bits that can be performed on computer memory. A procedure, computer executed step, logic block, process etc., are here conceived to be a self-consistent sequence of steps or instructions leading to a desired result. The steps are those utilizing physical manipulations of physical quantities. These quantities can take the form of electrical, magnetic, or radio signals capable of being stored,

transferred, combined, compared, and otherwise manipulated in a computer system. These signals may be referred to at times as bits, values, elements, symbols, characters, terms, numbers, or the like. Each step may be performed by hardware, software, firmware, or combinations thereof.

[0025] FIGURE 1 shows a block diagram of a wireless communication system. A network 100 may include one or more base station controllers, such as a radio network controller (RNC) 110, and one or more base stations 120 and 130, such as a Node-B, wherein each Node-B is connected to an RNC. The network 100 communicates with one or more users 140, 150 through a channel 160, also referred to as a radio link, created between a base station and a user.

[0026] Two mechanisms are primarily responsible for changes in the SNIR of a signal travelling through a radio link.

[0027] First, changes in the channel affect the SNIR. The instantaneous path loss between a base station and a user may vary as the user changes position or the user's environment changes. Rapid changes may occur as a result of a transmitted signal combining constructively and destructively as the signal travels along multiple paths from a base station and to the user. Additionally, slower changes may occur due to attenuation of the radio waves with increased distance between the base station and the user. Slower changes may also occur due to signal obstruction by buildings, vehicles and hills.

[0028] Second, signals from other transmitters affect the SNIR. For example, signals intended for other mobile radios or other base stations may increase interference in the radio link and thus reduce a received signal's SNIR.

[0029] In Time Division Duplex (TDD) systems, both uplink and downlink share the same carrier frequency. Due to this reciprocity in the links, path loss measurements made on the downlink by a mobile radio may be used estimate the path

loss on the uplink. That is, a measured downlink path loss may be used to estimate the uplink path loss. The estimated uplink path loss will be less reliable with the passing of time but may be adequate within a frame period. Therefore, a mobile radio may determine a transmit power level for an uplink transition that compensates for an estimated uplink path loss, thereby providing a received signal to a base station at an expected input power level.

[0030] Downlink path loss measurements may be facilitated by a beacon channel, which is transmitted from a base station at a reference power level. A mobile radio is informed of the actual transmit power level being used by the base station for the beacon channel. In addition to knowing the actual transmit power level of a beacon channel, the mobile radio may measure a received signal power level. By measuring the received signal power level, the mobile radio can compute a downlink path loss as the difference between the actual transmit power level and the received signal power level. Thus, the mobile radio is able to estimate the uplink path loss in a channel between the base station and the mobile radio and properly set its uplink transmit power level.

[0031] The path loss calculation may be updated as often as a beacon signal is transmitted and received. In a UTRA TDD system in compliance with the third generation partnership project (3GPP) specifications, a beacon signal is transmitted either once or twice every 10 milliseconds (ms). If an uplink transmission follows a beacon transmission within a relatively short period of time, a mobile radio can compensate for the fast fluctuations (fast-fading) in a radio channel. Such is the case for mobiles travelling at slow to moderate speeds if a beacon signal is transmitted either once or twice every 10ms and the uplink transmissions occur in the intervening period.

[0032] Additionally, a radio channel may be adversely affected by changes in interference levels over time. These temporal interference changes may be accommodated by a base station, measuring and communicating interference levels seen in each uplink timeslot. In a UTRA TDD system, a table having values of the measured interference for each timeslot may be broadcast to all users via a Broadcast Channel (BCH). The broadcasted information may be updated approximately every 16 frames (160 ms) depending upon the system configuration. In other embodiments, a mobile radio may receive this interference table as a signalled message directed to the individual mobile radio.

[0033] The 3GPP specifications describe two separate schemes for power control of uplink channels: an open loop scheme and a closed loop scheme. For example, in 3GPP 3.84 Megachips per second (Mcps) TDD systems, open loop power control is specified for all uplink channels. In 3GPP 1.28 Mcps TDD systems, open loop power control is specified only for physical random access channels (PRACH). Also defined by 3GPP is an implementation of a closed loop power control scheme. For example, see 3GPP recommendations for UTRA TDD systems operating at 1.28 Mcps for non-PRACH uplink channels.

[0034] In a wireless communication system using an open loop scheme, a network and UE use an outer loop to update and signal to the UE an SNIR Target value, thereby influencing the UE's transmit power. The network updates the SNIR Target value to be signalled based upon an observed error rate on the uplink. Once received, the mobile radio takes into account the signalled SNIR Target value when deriving a transmit power level that it will apply to the next uplink signal transmitted.

[0035] In a 3GPP 3.84 Mcps system incorporating an open loop scheme, a network instructs the UE with an SNIR Target value. The network also signals its beacon transmit power level and may also provide a measure of uplink interference for

each timeslot as measured by the network. The UE receives an input signal that is typically a combination of attenuated versions of the network signal, which passed through a radio channel, along with interfering signals from other transmitters. The UE measures the received power level of the attenuated network signal and determines a path loss of the radio channel. The UE also decodes the signalled SNlR Target value from the network signal. The UE computes a transmit power level based on the SNIR Target value, the determined path loss and, if available, the uplink interference measurements.

[0036] FIGURE 2 illustrates a wireless communication system using an open loop scheme. A UE transmits 200 user data at a determined transmit power level. An uplink signal 202, which includes user data 204, propagates through the radio link. The network receives an attenuated version of the transmitted signal. The network measures 207 an uplink interference value and determines 206 an error metric of the uplink signal. The network may use the measured uplink interference value to update 208 an interference measurement table. The interference measurement table may include average measured interference levels for each uplink timeslot.

[0037] The network also uses the error metric to update 210 an SNIR Target value. The network transmits 212 SNIR Target in a signalling message on the downlink 214, which includes the SNIR Target 216. The UE receives and saves 220 the SNIR Target. The network also broadcasts 222 a beacon signal on the downlink 224. The downlink 224 propagates the signal, which includes an indication of the beacon power level 226, over the radio link. The network may also broadcast the interference measurements 228. The UE measures 230 the received power level and saves 232 the interference measurements for later processing.

[0038] With the measured power level and the signalled beacon power level, the UE may determine a path loss. The UE may use the saved received SNIR Target 216,

the saved received interference measurements 228 and the computed path loss to set 234 a transmit power level. This transmit power level may be used by transmitter 200 to set the power level of transmitted user data 204 on the uplink 202.

[0039] The 3GPP specifications also define a closed loop scheme. For example, a 3GPP 1.28 Mcps system employs a closed loop scheme using an outer loop and an inner loop. The closed loop TPC scheme is the primary power control mechanism used for all non-PRACH channels in a 1.28 Mcps TDD system. The closed loop TPC scheme is not currently employed for the uplink of 3.84 Mcps TDD systems.

[0040] The outer loop determines an SNIR Target value and the inner loop uses the SNIR Target value. The outer loop includes network components that determine an error metric, such as a bit error rate, a block error rate or a CRC error count, on uplink traffic from UEs. This error metric is used to set and update an SNIR Target value. An inner loop includes network components that use the SNIR Target value computed and set by the outer loop. The network measures a received SNIR value of the uplink signal.

[0041] Next, a comparator determines whether the measured SNIR value is greater than or less than the SNIR Target value. If the measured SNIR value is greater than the SNIR Target value, the network signals a transmit power control (TPC) command on the downlink instructing the UE to reduce its current transmitter power by a step value (e.g., 1 dB). On the other hand, if the measured SNIR value is less than the SNIR Target value, the network signals a TPC command instructing the UE to increase its current transmitter power by the step dB value.

[0042] In a system employing only a closed loop power control scheme, several TPC commands may be necessary to properly bring the UE's transmitted power in line with the SNIR Target value. For example, if a path loss increases from one frame to the next by 15 dB, the system will take 15 TPC commands to compensate for the 15 dB

fade. A UE accumulates the increase and decrease TPC commands to determine a proper uplink transmit power level. By increasing and decrease uplink power levels of each UE, a network attempts to control the power level of each UE such that the ratio of the received uplink energy level per transmitted bit to the spectral density of the noise and interference signals is a constant value. This TPC command adjustment process is performed for each UE in a cell. The constant value, however, may be non-uniform among the UEs depending upon the configuration of the system.

[0043] In a closed loop TPC scheme, the inner loop SNIR is maintained via a closed loop method using binary feedback. The feedback indicates either power up or power down. Every time a TPC command is received an integrator in the UE is used within the inner loop to update the UE transmit power by a step amount +/-Δ dB. The TPC commands themselves are derived by the network and are signalled to the UE via a downlink channel. When calculating the proper TPC command to send, the network measures the received SNIR and compares this measured value to an SNIR Target value. If the SNIR is too low, an up command is sent. If the SNIR is too high, a down command is sent. The target SNIR value is updated by the outer loop based upon the observed error performance of the link. In this way, both the inner and outer feedback loops are closed by the TPC signalling.

[0044] FIGURE 3 illustrates a wireless communication system using a closed loop scheme. The closed loop scheme includes an outer loop in which a UE transmits 300 user data over the radio link in an uplink signal 302 that contain the user data 304. The network determines 306 an error metric of the received uplink signal. Using the error metric, the network computes and updates 308 an SNIR Target value.

[0045] The closed loop scheme also includes an inner loop in which the network measures 310 the received SNIR of the uplink signal 302. The network compares 3 12 the measured SNIR with the SNIR Target determined in the outer loop. The inner

loop generates and transmits 314 a TPC command based on the comparison 312. A downlink signal 316 carries the TPC command 318 over the radio link. The UE accumulates 320 the TPC commands and uses the accumulated TPC commands to set 322 a transmit power for future uplink transmissions 300.

[0046] A mobile radio system employing either an open loop scheme or a closed loop scheme has its advantages and disadvantages.

[0047] The open loop scheme advantageously adapts quickly to path loss changes. If the path loss is observed to have worsened, for example by 15 dB in one 10 ms interval, the transmit power may be adjusted accordingly. A further advantage is that the open loop may continue to be partially updated in the absence of user-specific feedback signalling. For example, when a UE does not receive updated SNIR Target values, the outer loop pauses but changes in the path loss may continue to be tracked.

[0048] Disadvantageously, the timeslot interference level update rate in an open loop system is relatively slow. Therefore, a system using an open loop scheme is slower to adapt to interference changes than a system using the closed loop scheme. A further disadvantage of the open loop scheme is that interference is considered to be the same for all UEs in a particular uplink timeslot. That is, each UE assigned to a timeslot uses the same interference measurement signalled by the base station on the BCH. A commonly used interference measurement table makes assumptions about the statistical nature of the interference and does not consider the individual cross-correlation properties of the uplink channelization codes. It is thus left to the outer loop to compensate for these effects, but unfortunately on a slow basis.

[0049] Conversely, the closed loop only scheme is less able to adapt to fast path loss changes because the closed loop can only move by a step A dl3 during each update. Thus, if the path loss has changed between updates by 15 dB and the step Δ dB value is only 1 dB, the closed loop is not able to adjust quickly since it can move only by 1 dB

during each cycle. Therefore, for the same update rate (e.g., once per 10 ms), a closed loop TPC scheme is less able to track the fast fading observed in common mobile radio channels. Furthermore, the closed loop may not be updated during a pause in transmission of the TPC commands.

[0050] Advantageously, the closed loop is relatively quick to respond to uplink interference changes since both path loss and interference are accommodated by the same loop. The closed loop scheme using TPC commands has a further advantage in that it allows for per-user interference adaptation, in contrast to the open loop scheme, which broadcasts an average interference table for each timeslot.

[0051] In accordance with the present invention, aspects of both an open loop scheme and a closed loop scheme are strategically combined to form a power control method. Some embodiments of the present invention advantageously combine elements of both open loop and closed loop schemes to control power levels, thereby avoiding one or more of the disadvantages associated with either of the separately used schemes.

[0052] In accordance with some embodiments of the present invention, a UE incorporates the TPC structure of a closed loop scheme and the path loss estimation structure of an open loop scheme. Some embodiments of the present invention allow for both relatively quick adaptation to fast fading and also allow for per-user interference adaptation, and retain the ability to partially update the power control loop even in the temporary absence of TPC commands.

[0053] Some embodiments of the present invention require modifications to one or more elements of a standard mobile radio system. For example, some embodiments require changes to just a UE, while other embodiments require modifications to just the network. Embodiments that modify a UE but not the network allow the UE of the present invention to operate with legacy base stations. Similarly, embodiments that

modify the network but not the UE allow the network of the present invention to operate with legacy UEs. Still other embodiments of the present invention require modification to both the network and the UE. Embodiments modifying standard network elements may include changes to just a base station but not a radio network controller (RNC). Other embodiments modify both a base station and an RNC.

[0054] Some embodiments of the present invention, incorporate a loop having three components: an open loop component located in the UE, an SNIR comparison loop located in the network, and an SNIR update component also located in the network.

[0055] First, an open loop component may be located in the UE and driven by measured beacon received power levels and path loss calculations. This loop tries to adapt to all instantaneous path loss changes on a per-beacon transmission basis. The partial power calculated by this loop is a function of the beacon signal transmission power (P_{Tx}) and the beacon received signal code power (RSCP) and is denoted $P_{open}(k)$, where k represents the current frame number. P_{Tx} is known to the UE and derived from the base station signalled power level (428, FIGURE 4) and the measured power level for frame k, ($RSCP(k)$), may be determined by the UE receiver (432, FIGURE 4). $P_{open}(k)$ may also be a function of a constant value (C) to ensure that the transmission arrives at an appropriate power level.

$$P_{open}(k) = P_{Tx} - RSCP(k) + C$$

[0056] Second, an SNIR comparison loop is located in the network, such as in the Node-B. The SNIR comparison loop is driven by received SNIR metrics. A received SNIR is compared to a SNIR Target value, which is set by an outer loop. A comparison result leads to the signalling of a TPC command that is signalled to the UE to change its transmit power. Binary signalling may used, such that the TPC command indicates

a change in transmission power by a fixed amount either up or down. Alternately, a multi-level TPC command may be used.

[0057] Third, an outer loop is located in the network, such as in the Node-B or RNC. The outer loop is driven by the data error statistics observed on the uplink transmissions. The outer loop is responsible for setting an SNIR Target level for the SNIR comparison loop.

[0058] An optional auxiliary process in the UE adjusts the transmit power based upon: (a) y_{SF}, the spreading factor (SF) of the physical channel; and (b) β_{TFC}, the selected transport format (TFC).

[0059] Thus, for the current frame k, the UE may calculate the transmit power $P_{Tx}(k)$ as shown below where K is the initial frame number determined when the power control process begins; $TPCi$ is -1 for a down TPC command, $+1$ for an up TPC command and 0 if no TPC command is received; and $step$ is the magnitude of the amount added to an accumulator upon receipt of each TPC command. The transmit power $P_{Tx}(k)$ may be updated for every frame period. Alternatively, the transmit power $P_{Tx}(k)$ may be updated each time a new TPC command is received. Alternatively, the transmit power $P_{Tx}(k)$ may be updated only when either a TPC command or a new power level is received from the network.

$$P_{Tx}(k) = P_{open(k)} + step \cdot \sum_{i=k-K}^{k} TPC_i + y_{SF} + \beta_{TFC}$$

[0060] An embodiment of a power control scheme, in accordance with the present invention, is shown diagrammatically in FIGURE 4. The y_{SF} and β_{TFC} adjustment factors are not shown for diagrammatical clarity.

[0061] FIGURE 4 illustrates a wireless communication system using elements of both open loop and closed loop schemes, in accordance with the present invention. A UE transmits 400 user data at a determined transmit power level. An uplink signal

402, which includes the user data 404, propagates through the radio link. The network receives an attenuated version of the transmitted signal.

[0062] The network determines 406 an error metric of the uplink signal 402. Optionally, the network measures an uplink interference level and may update 422 an interference measurement table. Data measured or computed from uplink measurements may be entered into the interference measurement table. The interference measurement table may include average measured interference levels for each uplink timeslot. Within the network the error metric may be used to update 408 an SNIR Target value.

[0063] The network also transmits 424 a beacon signal. The downlink signal 426, which includes an indication of the beacon transmit power level 428**,** propagates over the radio link. Optionally, the network may broadcast the interference measurements 430. The UE saves 432 the signalled power level, measures the received power level and, if available, saves 434 the interference measurements for later processing.

[0064] As in a closed loop scheme, a UE transmits 400 user data over the radio link in an uplink signal 402 that contain the user data 404. The network determines 406 an error metric of the received uplink signal. Using the error metric, the network computes and updates 408 an SNIR Target value.

[0065] The network also measures 410 the received SNIR of the uplink signal 402. The network compares 412 the measured SNIR with the determined SNIR Target. The network generates and transmits 414 a TPC command based on the comparison 412. A downlink signal 416 carries the TPC command 418 over the radio link. The UE accumulates 420 the TPC commands and uses the accumulated TPC commands in part to set 436 the transmit power level for future uplink transmissions 400.

[0066] As in an open loop scheme, with the measured power level and the signalled beacon power level, the UE may determine a path loss $P_{open}(k)$. The UE may use the saved received interference measurements $I(k)$ to adjust the transmission power following a pause in transmission or following a pause in receipt of TPC commands. The UE may use the accumulated TPC commands $\sum_{i=k-K}^{k} TPC_i$ the computed path loss $P_{open}(k)$, adjustment factors y_{SF} & β_{TFC} and optionally, adjustments based upon $I(k)$ to set 436 a transmit power level. This transmit power level $P_{Tx}(k)$ may be used to set the uplink power level of transmitted 400 user data on the uplink 402.

[0067] The downlink signal 426, which contains the power level 428 and may contain the interference measurements 430, is broadcast in a cell. Previous UEs using a closed loop scheme do not use measurements of the downlink received power while monitoring the power level signalling in a beacon broadcast to set the uplink transmission power. Similarly, previous UEs using a closed loop scheme do not compute or do not use computations of the downlink path loss while processing TPC commands. A previous UE simply follows the TPC commands as it is instructed to set its transmit power level. If a network instructs a known UE to increase its transmit power by one step amount, the previous UE shall increase its power level by one step amount.

[0068] In accordance to the present invention, a UE may receive a TPC command instructing it to change its transmit power by one step level in a particular direction, but the UE may actually change its transmit power level by a different amount or in fact an amount in the opposite direction. The UE uses the TPC only as a factor in determining whether to increase transmit power level, decrease transmit power level or leave the transmit power level unchanged.

[0069] For example, assume a UE just transmitted a burst to a Node-B at 20 dBm over a radio link with a path loss of 110 dB. The received power at the Node-B receiver would be -90 dBm, which is the difference between 20 dBm and a loss of 110 dB. Next, assume the Node-B wants to receive an uplink signal from the UE at -89 dBm. The Node-B would signal and the UE would receive a TPC command instructing the UE to increase the uplink transmit power level by 1 dB. Also assume that the path loss improves from the previous frame to this frame by +10 dB (e.g., from 110 dB to 100 dB).

[0070] A previous UE would transmit the next burst at +21 dBm, which is the sum of the previous level (+20 dBm) and the step increase (1 dB). The transmitted +21 dBm signal would probably reach the Node-B at -79 dBm, a signal level that is +10 dB too great because the channel improvement was not taken into account.

[0071] In accordance with the present invention, a UE would account for the new path loss. The previous transmit power level of +20 dBm would be decreased by +10 dB to account for the improved channel path loss of +10 dB. The resulting transmit power level would then be +10 dBm. The UE also accounts for the TPC command by adjusting the transmit power level by the desired step of +l dB, resulting in a new transmit power level of +11 dBm, which both accounts for the improved channel (+l0 dB) and accommodates the Node-B's desire to have a received signal with a step increase (+1 dB). The +11 dBm would reach the Node-B at the desired level of -89 dBm if the channel pathloss estimate was accurate. As shown in this example, the transmit power level dropped 9 dB (from +20 dBm to +11 dBm) even though the Node-B TPC command instructed an increase of 1 dB.

[0072] Therefore, even though a UE receives a network TPC command instructing it to step up or down its uplink transmit power by 1 dB, the UE may actually change the transmit power level by a different amount. In fact, the UE

transmit power level may change in a direction opposite of the TPC command as exemplified above.

[0073] During a period of inactivity on the uplink 402, TPC commands 418 may not have been received by the UE. The UE transmit power level for a subsequent initial transmission 400 may be determined using current updates of the open loop component. That is, the initial transmit power level may be determined based on the beacon power level 428, the measured 432 received power level, and optionally the interference measurements 430. The open loop component does not require feedback, thus may continue to be updated every beacon transmission even during the uplink transmission pause.

[0074] The history stored in the TPC accumulator may be stale. In some circumstances the history may be considered useful and is not reset. Alternatively, the accumulated TPC history could be used to set the uplink transmit power level but with some excess power margin added to ensure a clean start to the loop. Alternatively, the UE may decide to discard the accumulated TPC history and to reset it to a default or initial value. The default or initial value may optionally be based upon a received interference measurement table 430.

[0075] The ability of the open loop component to compensate for fast fading is a function of the channel speed and the delay between the beacon timeslot and the uplink timeslots. Open loop control is often effective at pedestrian speeds as well as at higher speeds if the uplink slots are placed close in time to the beacon. At high mobile speeds, it is likely that power control performance will be improved if beacon RSCP filtering is enabled at the UE. The UE is responsible for detecting whether or not filtering should be applied to the open loop component. Automatic detection of the channel speed may be performed by the UE in order to control the enabling of RSCP filtering. In some embodiments of the present invention, a UE disables a combined

open loop/closed loop scheme operating in accordance with the present invention when a UE passes a threshold value indicative of mobile speed.

[0076] Simulations have been performed to illustrate the performance advantages of some embodiments of the present invention. The radio channel simulated here represents an ITU indoor to outdoor and pedestrian model B channel as described in ITU-R M.1225 Guidelines for Evaluation of Radio Transmission Technologies for IMT-2000. The outer loop SNIR target was based upon a 1% error rate. A residual SNIR error term observed at the base station was monitored.

[0077] FIGURES 5A, 5B and 5C each illustrate a simulated probability density function of the received SNIR in the network. In each of the simulations, approximately 10,000 received SNIR values are sampled. Simulation results for each scenario are grouped and collected into bins. The vertical axis shows a number of occurrences for a particular range (bin) of received SNIR values. A sampled received SNIR value that fall within a range defined by a bin is counted as an occurrence for that bin.

[0078] FIGURE 5A shows simulation results for a system using only an open loop scheme. In this plot, the bin width is approximately 0.42 dB. The simulation results show a system good at tracking fast fading in the channel, but not as able to track the interference variations included in the simulation. These values are only updated at the UE via signalling every 160 ms. As such, the error term shows considerable variance at the receiver.

[0079] FIGURE 5B shows simulation results for a system using only a closed loop scheme. In this plot, the bin width is approximately 0.48 dB. The simulation results show a system better able to track the interference changes, but not as able to track the path loss due to being limited in response to the TPC command +/- 1 dB step size.

[0080] FIGURE 5C shows simulation results for a system combining aspects of both open and closed loop schemes (as shown in FIGURE 4). In this plot, the bin width is approximately 0.24 dB. The simulation results show a system able to respond to both path loss and interference changes. Additionally, the residual SNIR error term shows less variance. The plot shows that the variance of this distribution is considerably reduced for the combined power control scheme.

[0081] For the above simulations (using the same fading and interference profiles for each loop method), the following mean transmit powers were obtained:

Power Control Method	**Mean Transmit Power for 1% BLER**
Open Loop: (FIGURE 2)	5.76 dB
Closed Loop: (FIGURE 3)	5.48 dB
Combined Loops: (FIGURE 4)	3.59 dB

Table 1 – Performance of Power Control Schemes

[0082] For the simulated channel and interference scenario, the combined scheme is able to maintain a 1% block error rate (BLER) using 2.17 dB less power than the open loop scheme and 1.89 dB less power than the closed loop scheme. In a real system, this power saving may equate to greater cell coverage, higher uplink capacity and throughput, and increased battery life. The magnitude of the gains may change with different channel speeds, types and interference profiles but the performance of the combined should be better than both the open loop and closed loop schemes when used individually.

[0083] In terms of signalling overhead, the combined scheme helps to avoid a need to signal SNIR Target and interference levels on downlink channels, and has a similar signaling efficiency as the closed loop scheme. In some embodiments, the signalling efficiency is 1 bit per update.

[0084] In a system using the combined power control scheme, a new physical channel on the downlink may be used to carry fast allocation and scheduling information to a user, thereby informing the UE of the uplink resources that it may use. This new physical channel could also be used as the feedback channel for the combined power control scheme. For example, an allocation/scheduling channel could carry TPC commands. Alternatively, the combined scheme may be applied to existing channel types (dedicated or shared uplink physical channels) for UTRA TDD as well as to other TDD systems.

[0085] Some embodiments of the present invention control uplink power levels and may be incorporated into a UE with supporting features incorporated into a base station. For example, a Node-B or RNC may be implemented with a new parameter, either included in a signaling command or a broadcast message, where the new parameter instructs a UE to enable or disable the setting of uplink transmit power level based on both the path loss estimation and the TPC commands. A parameter may indicate whether a UE is to use open loop power control, closed loop power control or a combined scheme.

[0086] Some embodiments of the present invention operate with a downlink signal including both a TPC command and an indication of the downlink transmit power level. In these embodiments, the downlink signal provides both downlinks 416 and 430 (FIGURE 4) in one signal. A UE may receive one physical channel that it decodes for TPC commands, decodes for downlink power level indications, and measures for received power levels. In these embodiments, the UE measures a power level of a received signal, receives a TPC command, and calculates a transmit power level based on the power level of the received signal and the TPC command.

[0087] While the invention has been described in terms of particular embodiments and illustrative figures, those of ordinary skill in the art will recognize

that the invention is not limited to the embodiments or figures described. For example, the combined uplink power control scheme described above may be implemented a mirror image for controlling downlink power. In this case, functions performed by the UE for a combined uplink scheme may be performed by the network. Similarly, functions performed by the network for the combined uplink scheme may be performed by the UE.

[0088] The figures provided are merely representational and may not be drawn to scale. Certain proportions thereof may be exaggerated, while others may be minimized. The figures are intended to illustrate various implementations of the invention that can be understood and appropriately carried out by those of ordinary skill in the art.

[0089] Therefore, it should be understood that the invention can be practiced with modification and alteration within the spirit and scope of the appended claims. The description is not intended to be exhaustive or to limit the invention to the precise form disclosed. It should be understood that the invention can be practiced with modification and alteration and that the invention be limited only by the claims and the equivalents thereof.

* * *

CLAIMS

What is claimed is:

1. A method performed by a wireless network, the method comprising:

transmitting, by the wireless network on a single downlink physical channel, a signal having both uplink resource allocation information and a multilevel transmit power command;

receiving, by a user equipment (UE), the single downlink physical channel and the signal;

transmitting, by the UE, an uplink signal on an uplink channel based on the uplink resource allocation information, wherein a transmission power level of the uplink signal is based on the multilevel transmit power command, a determined pathloss, and a format of the uplink signal on the uplink channel; and

receiving, by the wireless network, the uplink signal on the uplink channel.

2. The method of claim 1 wherein the uplink channel is an uplink shared channel.

3. The method of claim 1 further comprising:

accumulating, by the UE, a plurality of multilevel transmit power commands.

4. The method of claim 1 further comprising:

transmitting, by the wireless network, a parameter;

receiving, by the UE, the parameter; and

determining, by the UE, whether to accumulate transmit power commands in response to the parameter.

5. The method of claim 1 wherein the wireless network and the UE utilize code division multiple access (CDMA).

6. A wireless network, the wireless network comprising:

a network device comprising:

circuitry configured to transmit on a single downlink physical channel a signal having both uplink resource allocation information and a multilevel transmit power command; and

circuitry configured to receive an uplink signal; and

a user equipment (UE) comprising:

circuitry configured to receive the single downlink physical channel; and

circuitry configured to transmit the uplink signal on an uplink channel based on the uplink resource allocation information; and

wherein a transmission power level of the uplink signal is based on the

multilevel transmit power command, a determined pathloss, and a format of the uplink signal on the uplink channel.

7. The wireless network of claim 6 wherein the uplink channel is an uplink shared channel.

8. The wireless network of claim 6 wherein the UE further comprises:

circuitry configured to accumulate a plurality of multilevel transmit power commands.

9. The wireless network of claim 6 wherein:

the wireless network further comprises circuitry configured to transmit a parameter; and

the UE further comprises:

circuitry configured to receive the parameter; and

circuitry configured to determine whether to accumulate transmit power commands in response to the parameter.

10. The wireless network of claim 6 wherein the wireless network and the UE utilize code division multiple access (CDMA).

ABSTRACT

A wireless network for allocating resources and controlling transmit power is provided. Uplink resource allocation information and a multilevel transmit power command is sent to a user equipment (UE) on a single downlink physical channel. In response to the information, the UE sends information on an uplink channel.

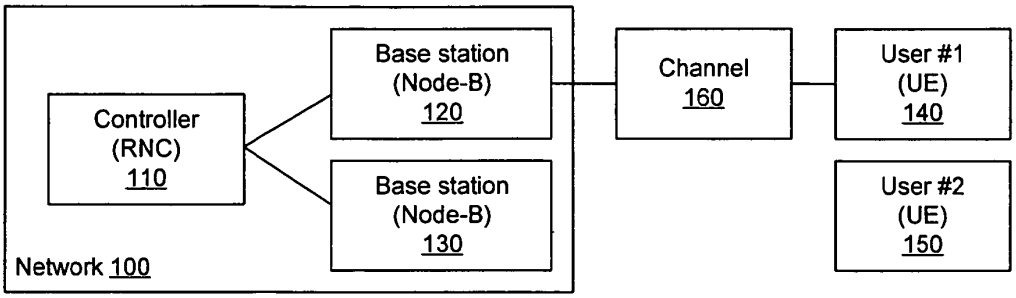


FIGURE 1

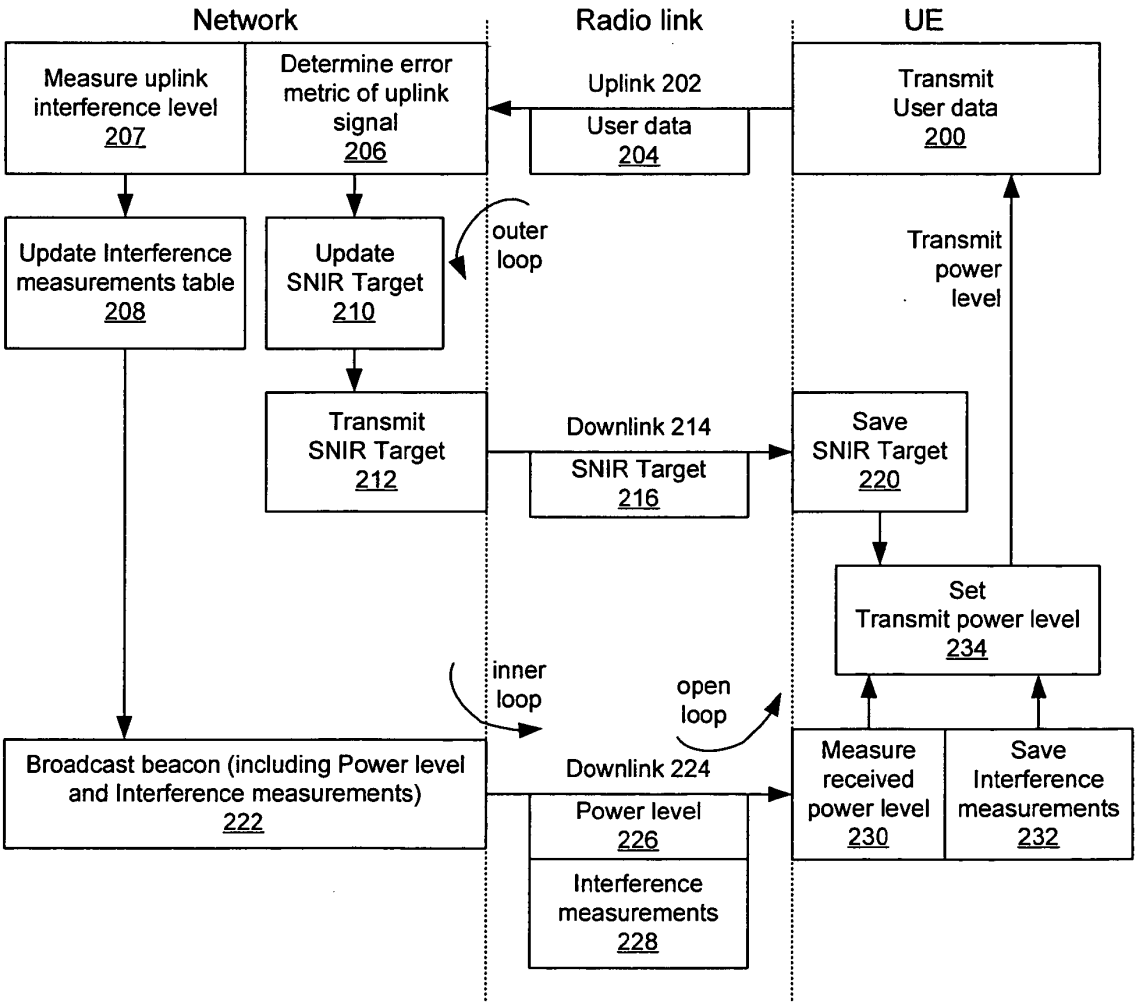


FIGURE 2

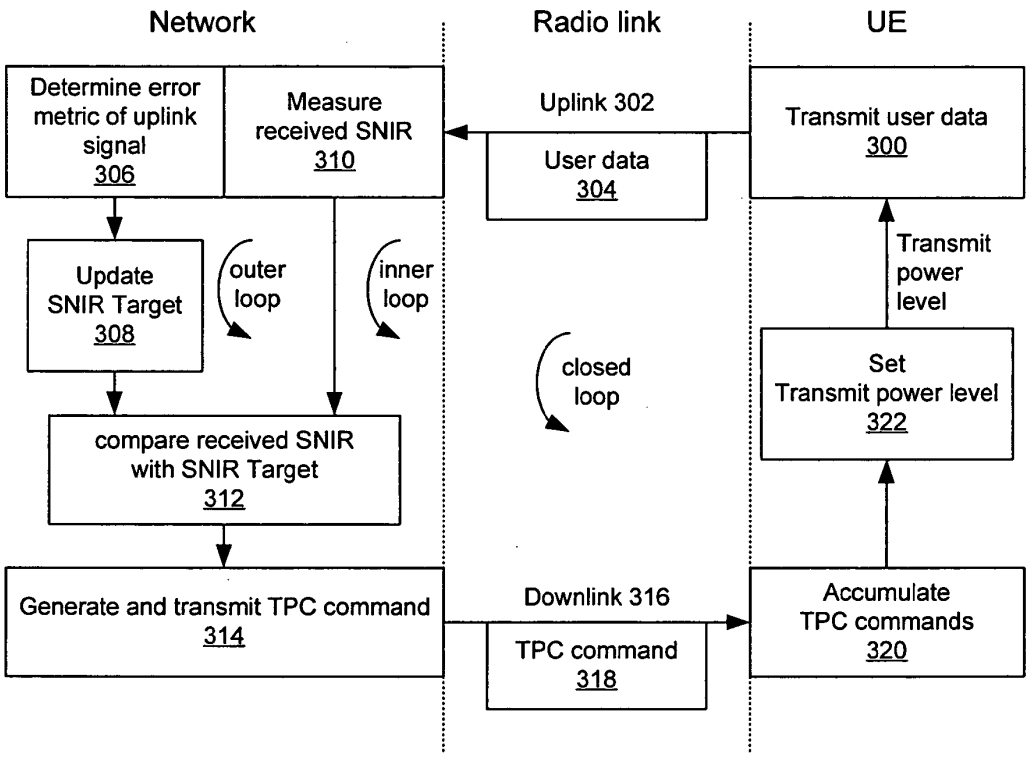

Network
Radio link
UE
Determine error metric of uplink signal 306
Measure received SNIR 310
Uplink 302
User data 304
Transmit user data 300
Update SNIR Target 308
outer loop
inner loop
Transmit power level
closed loop
Set Transmit power level 322
compare received SNIR with SNIR Target 312
Generate and transmit TPC command 314
Downlink 316
TPC command 318
Accumulate TPC commands 320

FIGURE 3

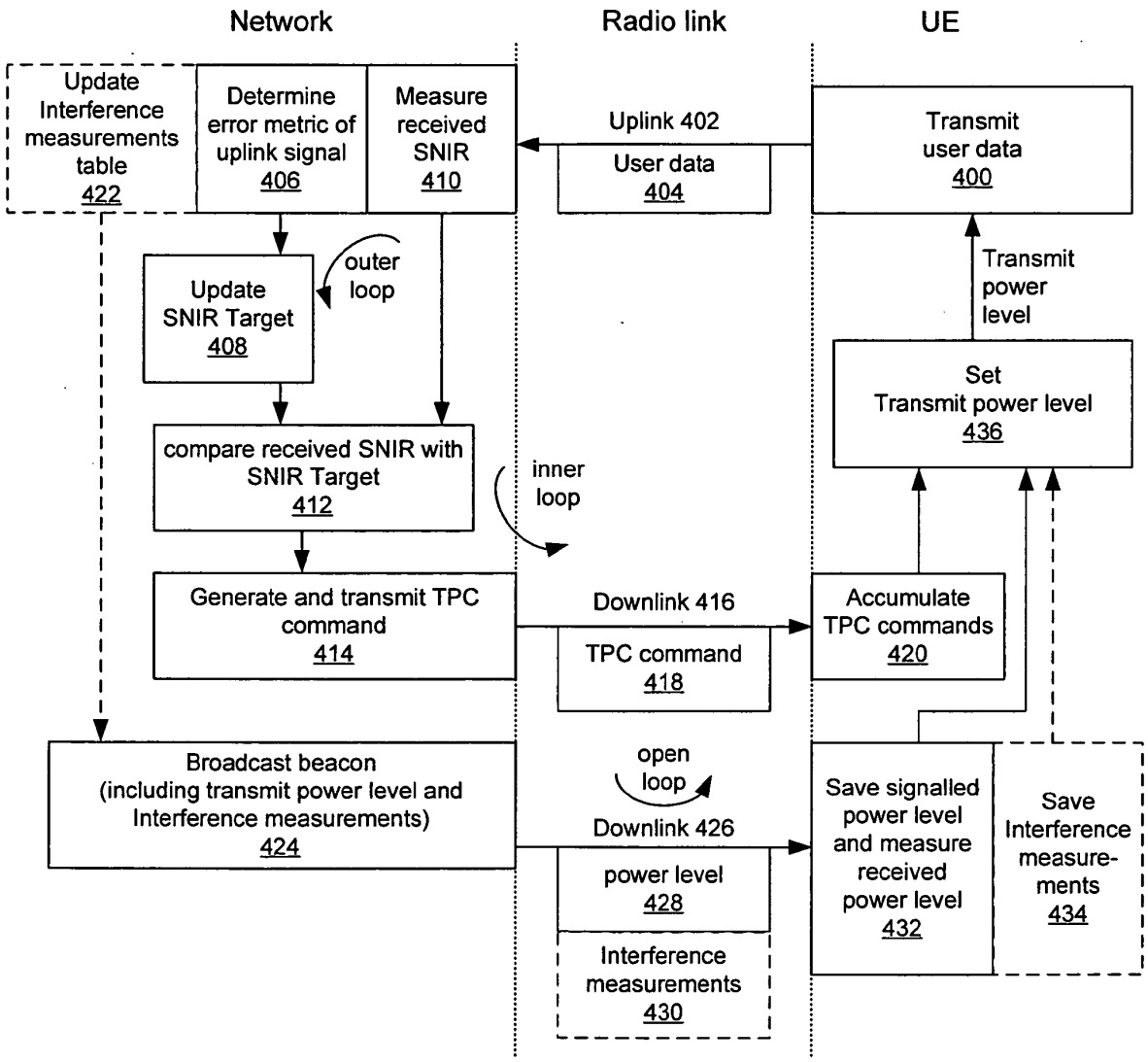

Network
Radio link
UE
Update Interference measurements table 422
Determine error metric of uplink signal 406
Measure received SNIR 410
Uplink 402
User data 404
Transmit user data 400
Update SNIR Target 408
outer loop
Transmit power level
Set Transmit power level 436
compare received SNIR with SNIR Target 412
inner loop
Generate and transmit TPC command 414
Downlink 416
TPC command 418
Accumulate TPC commands 420
Broadcast beacon (including transmit power level and Interference measurements) 424
open loop
Downlink 426
power level 428
Interference measurements 430
Save signalled power level and measure received power level 432
Save Interference measure-ments 434

FIGURE 4

FIGURE 5A

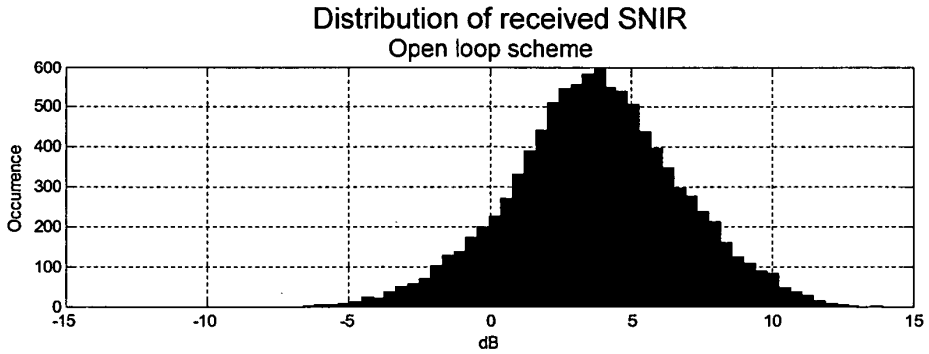


FIGURE 5B

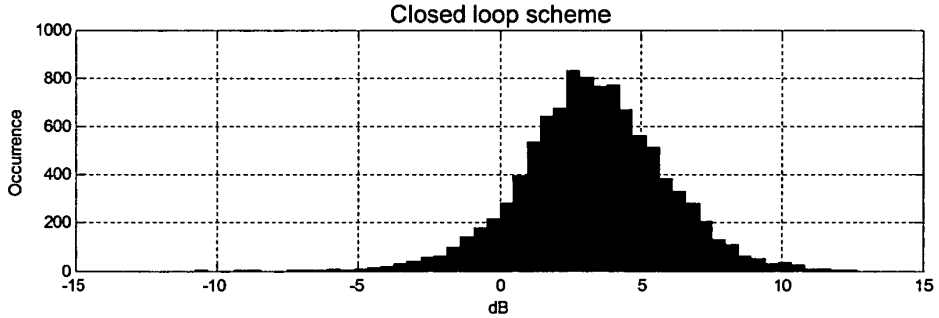
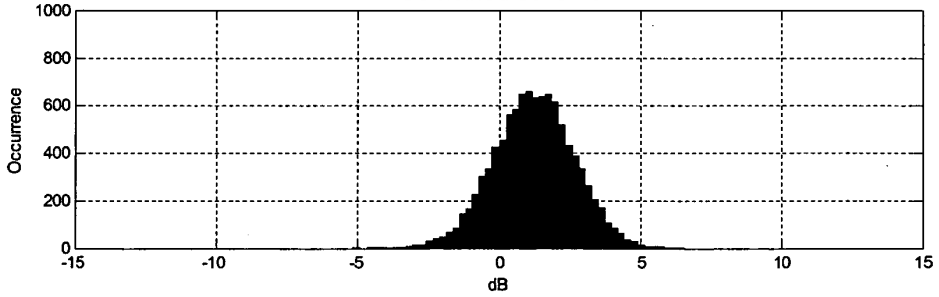


FIGURE 5C



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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	IPW2-USCN196553
	Application Number	
Title of Invention	POWER CONTROL IN A WIRELESS NETWORK	

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Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Nicholas	William	Anderson	

Residence Information (Select One) ○ US Residency ◉ Non US Residency ○ Active US Military Service

City	Bristol	Country of Residence	UK

Mailing Address of Inventor:

Address 1	72 London Road		
Address 2			
City	Bristol	**State/Province**	UK
Postal Code	BS30 5JL	**Country**	UK

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For further information see 37 CFR 1.33(a).

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	Application Number	
Title of Invention	POWER CONTROL IN A WIRELESS NETWORK	

Application Information:

Title of the Invention	POWER CONTROL IN A WIRELESS NETWORK		
Attorney Docket Number	IPW2-USCN196553	**Small Entity Status Claimed** ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		**Sub Class (if any)**	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	4	**Suggested Figure for Publication (if any)**	4

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

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This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	10917968	2004-08-12

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	IPW2-USCN196553
	Application Number	
Title of Invention	POWER CONTROL IN A WIRELESS NETWORK	

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Remove

Application Number	Country [i]	Filing Date (YYYY-MM-DD)	Priority Claimed
			○ Yes ◉ No

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In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (08-12)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	IPW2-USCN196553
	Application Number	
Title of Invention	POWER CONTROL IN A WIRELESS NETWORK	

Applicant 1 Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	Intellectual Ventures Holding 81 LLC

Mailing Address Information:

Address 1	7251 W. Lake Mead Boulevard		
Address 2	Suite 300		
City	Las Vegas	**State/Province**	NV
Country [i]	US	Postal Code	89128
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	IPW2-USCN196553
	Application Number	
Title of Invention	POWER CONTROL IN A WIRELESS NETWORK	

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

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

Signature	/Harry Vartanian/			Date (YYYY-MM-DD)	2012-12-26
First Name	Harry	Last Name	Vartanian	Registration Number	56787

Additional Signature may be generated within this form by selecting the Add button. Add

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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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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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 inspections 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.

Electronic Patent Application Fee Transmittal	
Application Number:	
Filing Date:	
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Angel Wolf
Filer:	Harry Vartanian/Angel Wolf
Attorney Docket Number:	IPW2-USCN196553
Filed as Large Entity	

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	390	390
Utility Search Fee	1111	1	620	620
Utility Examination Fee	1311	1	250	250
Pages:				
Claims:				
Miscellaneous-Filing:				
Late filing fee for oath or declaration	1051	1	130	130
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		1390

Electronic Acknowledgement Receipt	
EFS ID:	14560158
Application Number:	13727153
International Application Number:	
Confirmation Number:	1320
Title of Invention:	POWER CONTROL IN A WIRELESS NETWORK
First Named Inventor/Applicant Name:	Angel Wolf
Customer Number:	3624
Filer:	Harry Vartanian/Angel Wolf
Filer Authorized By:	Harry Vartanian
Attorney Docket Number:	IPW2-USCN196553
Receipt Date:	26-DEC-2012
Filing Date:	
Time Stamp:	16:38:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	$1390
RAM confirmation Number	2419
Deposit Account	220493
Authorized User	VARTANIAN, HARRY
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Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	**Document Description**	**File Name**	**File Size(Bytes)/ Message Digest**	**Multi Part /.zip**	**Pages (if appl.)**
1		20121226_IPW2_USCN196553_Application.PDF	195447 2b271147143956f3c6ca72e1532370f7c31dfad7	yes	28
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Specification		1	24	
	Claims		25	27	
	Abstract		28	28	
Warnings:					
Information:					
2	Drawings-only black and white line drawings	20121226_IPW2_USCN196553_Drawings.PDF	281219 3b754f7ae12147c674bc5929aa26700e15c7d85d	no	4
Warnings:					
Information:					
3	Application Data Sheet	20121226_IPW2_USCN196553_ADS.PDF	1761095 ccf201e5ce48ce5efe76b8d0c67602e0931824a8	no	6
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	36066 c1372ac65fb6e5224450c9b04a8dcadf2836c5d4	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	2273827		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.