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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:

03624

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:

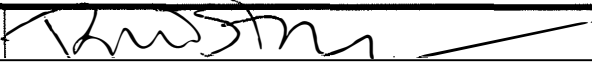
03624

OR

☐ Firm or Individual Name	Volpe and Koenig, P.C.		
Address			
City		State	Zip
Country			
Telephone		Email	

Assignee Name and Address: Signal Trust For Wireless Innovation
1011 Centre Road, Suite 327
Wilmington, Delaware 19805**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	November 25, 2013	
Name	HCJ Advisors LLC, as Trustee, by Bruce Bernstein		Telephone	302-573-3819
Title	President			

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.

LG Elecs. Ex. 1019

LG Elecs. v. Pantech Corp.

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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.

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.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: Signal Trust for Wireless InnovationApplication No./Patent No.: Not Yet Known Filed/Issue Date: August 20, 2019Titled: SUPPORTING UPLINK TRANSMISSIONSSignal Trust for Wireless Innovation, a corporation

(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: Guodong Zhang, Sung-Hyuk Shin, Stephen E. Terry, James M. Miller, Stephen G. Dick To: InterDigital Technology CorporationThe document was recorded in the United States Patent and Trademark Office at
Reel 019109, Frame 0717, or for which a copy thereof is attached.2. From: InterDigital Technology Corporation To: InterDigital Holdings, Inc.The document was recorded in the United States Patent and Trademark Office at
Reel 031434, Frame 0015, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). 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. 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.

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.

STATEMENT UNDER 37 CFR 3.73(c)3. From: InterDigital Holdings, Inc. To: InterDigital, Inc.The document was recorded in the United States Patent and Trademark Office at
Reel 031434, Frame 0249, or for which a copy thereof is attached.4. From: InterDigital, Inc. To: DST Holdings, Inc.The document was recorded in the United States Patent and Trademark Office at
Reel 031434, Frame 0302, or for which a copy thereof is attached.5. From: DST Holdings, Inc. To: Signal Trust for Wireless InnovationThe document was recorded in the United States Patent and Trademark Office at
Reel 031597, Frame 0485, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, 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.

/Joseph P. Gushue/August 20, 2019

Signature

Date

Joseph P. Gushue59,819

Printed or Typed Name

Title or Registration 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.

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.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Guodong		Zhang	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Syosset	State/Province	NY	Country of Residence
				JS

Mailing Address of Inventor:

Address 1	14 Walnut Drive			
Address 2				
City	Syosset	State/Province	NY	
Postal Code	11791	Country i	US	

Inventor 2 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Sung-Hyuk		Shin	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				
City	Northvale	State/Province	NJ	Country of Residence
				JS

Mailing Address of Inventor:

Address 1	104 Eidner Way			
Address 2				
City	Northvale	State/Province	NJ	
Postal Code	07647	Country i	US	

Inventor 3 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	Stephen	E.	Terry	
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service				

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

City	Northport	State/Province	NY	Country of Residence	US
------	-----------	----------------	----	----------------------	----

Mailing Address of Inventor:

Address 1	15 Summit Avenue				
Address 2					
City	Northport	State/Province	NY		
Postal Code	11768	Country i	US		

Inventor	4	Remove
Legal Name		

Prefix	Given Name	Middle Name	Family Name	Suffix
	James	M.	Miller	

Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Verona	State/Province	NJ	Country of Residence	US

Mailing Address of Inventor:

Address 1	18 Louisburg Square				
Address 2					
City	Verona	State/Province	NJ		
Postal Code	07044	Country i	US		

Inventor	5	Remove
Legal Name		

Prefix	Given Name	Middle Name	Family Name	Suffix
	Stephen	G.	Dick	

Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	Nesconset	State/Province	NY	Country of Residence	US

Mailing Address of Inventor:

Address 1	61 Bobann Drive				
Address 2					
City	Nesconset	State/Province	NY		
Postal Code	11767	Country i	US		

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.				
---	--	--	--	--

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).	
☐ An Address is being provided for the correspondence Information of this application.	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

Customer Number	03624		
Email Address	leoffice@vklaw.com	Add Email	Remove Email

Application Information:

Title of the Invention	SUPPORTING UPLINK TRANSMISSIONS		
Attorney Docket Number	SIG-2-0674US09	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	4	Suggested Figure for Publication (if any)	2

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One: ☒ Customer Number ☐ US Patent Practitioner ☐ Limited Recognition (37 CFR 11.9)			
Customer Number	03624		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
	Continuation of	16283407	2019-02-22		
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16283407	Continuation of	15699418	2017-09-08	10219196	2019-02-26
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15699418	Continuation of	14869313	2015-09-29	9763156	2017-09-12
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14869313	Continuation of	13908242	2013-06-03	9215636	2015-12-15
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13908242	Continuation of	13308950	2011-12-01	8457072	2013-06-04
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13308950	Continuation of	11434330	2006-05-15	8130720	2012-03-06
Prior Application Status	Patented		Remove		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
11434330	Continuation of	10962720	2004-10-12	7046648	2006-05-16
Prior Application Status	Expired		Remove		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
10962720	Claims benefit of provisional	60578674	2004-06-10		

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
10962720	Claims benefit of provisional	60520692	2003-11-17
Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
10962720	Claims benefit of provisional	60519990	2003-11-14
Prior Application Status	Expired	Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
10962720	Claims benefit of provisional	60517656	2003-11-05
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. 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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)	Remove
Additional Foreign Priority Data may be generated within this form by selecting the Add button.				Add

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

- ☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.
- ☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

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.

Applicant	1	Remove
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☒ 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. ☒		
Organization Name	Signal Trust for Wireless Innovation	
Mailing Address Information For Applicant:		
Address 1	1011 Centre Road	
Address 2	Suite 327	
City	Wilmington	State/Province DE
Country	US	Postal Code 19805
Phone Number		Fax Number
Email Address		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

Assignee	1		
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If the Assignee or Non-Applicant Assignee is an Organization check here.			☒
Organization Name	Signal Trust for Wireless Innovation		
Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	1011 Centre Road		
Address 2	Suite 327		
City	Wilmington	State/Province	DE
Country i	US	Postal Code	19805
Phone Number		Fax Number	
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Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

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Signature	/Joseph P. Gushue/		Date (YYYY-MM-DD)	2019-08-20	
First Name	Joseph P.	Last Name	Gushue	Registration Number	59819
Additional Signature may be generated within this form by selecting the Add button.				Add	

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	SIG-2-0674US09
		Application Number	
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS		

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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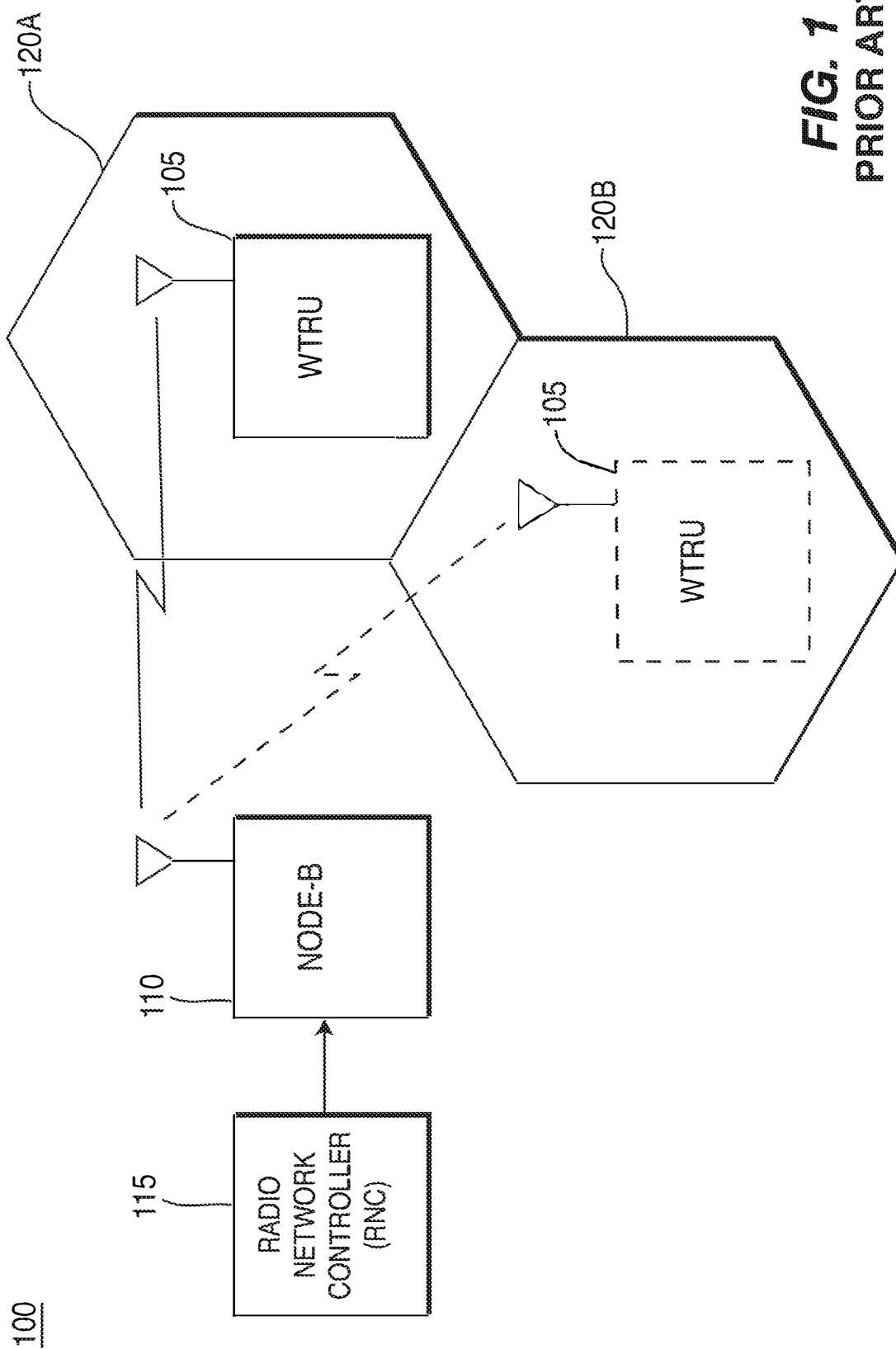


FIG. 1
PRIOR ART



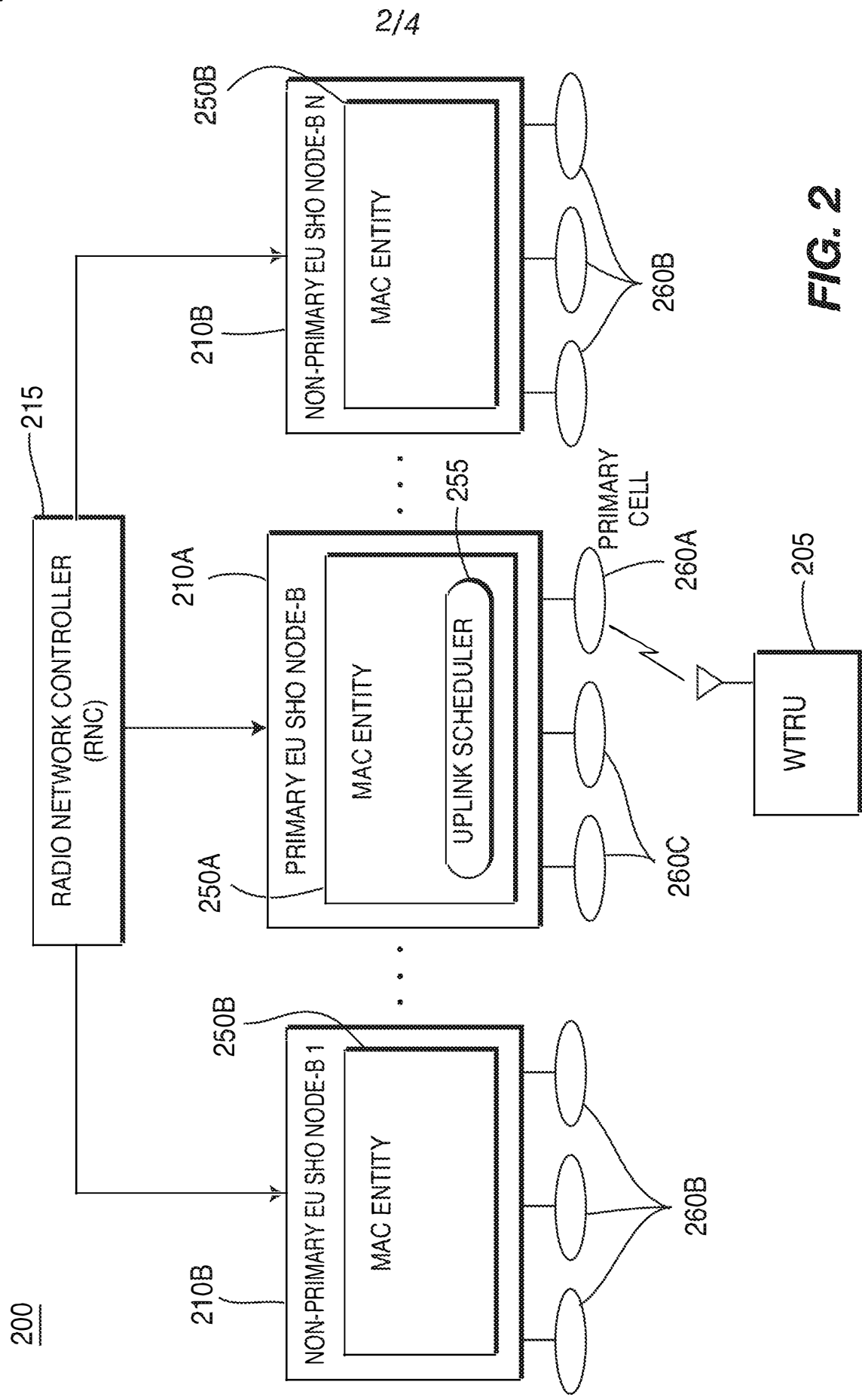


FIG. 2



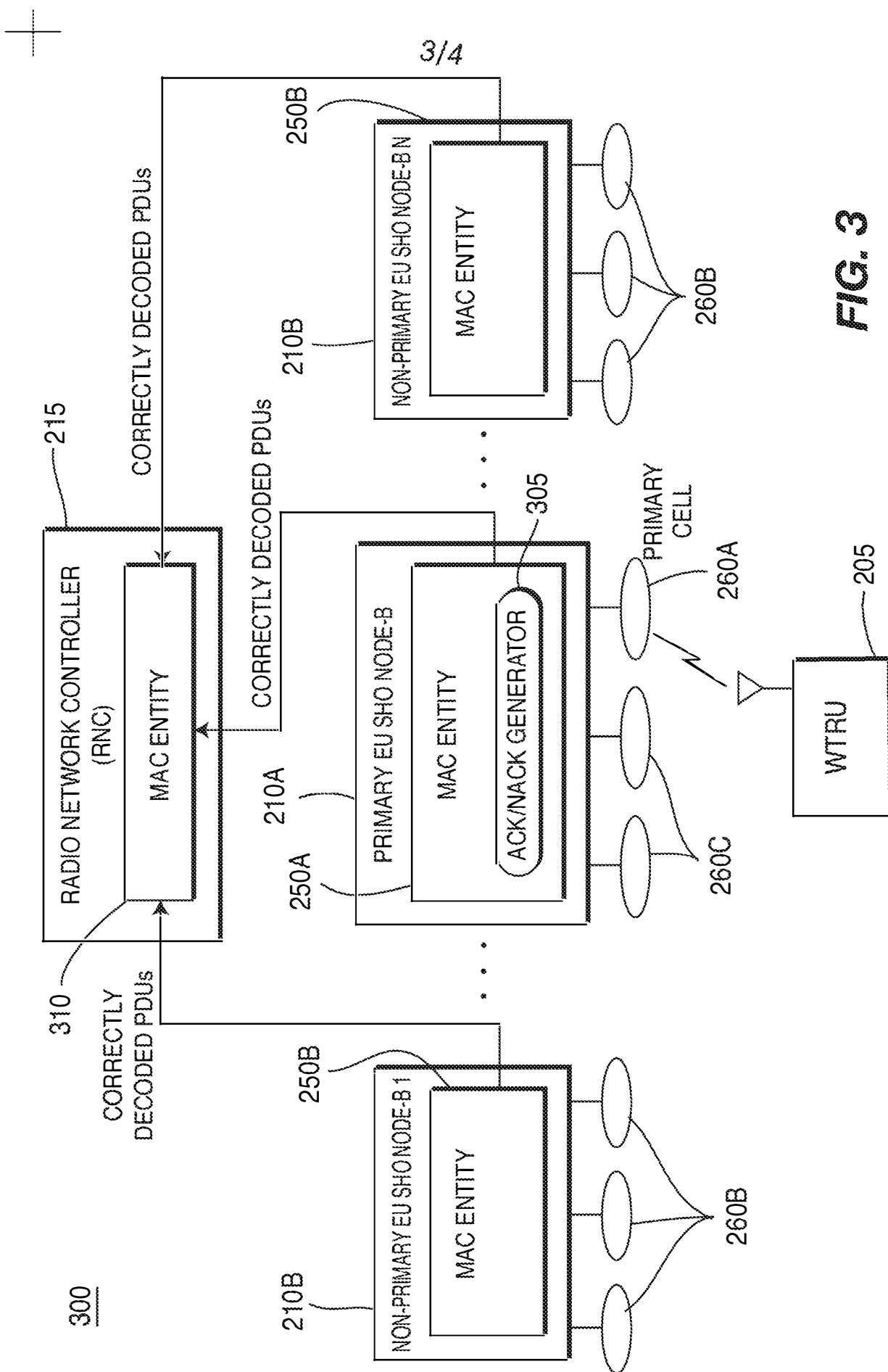


FIG. 3



400

4/4

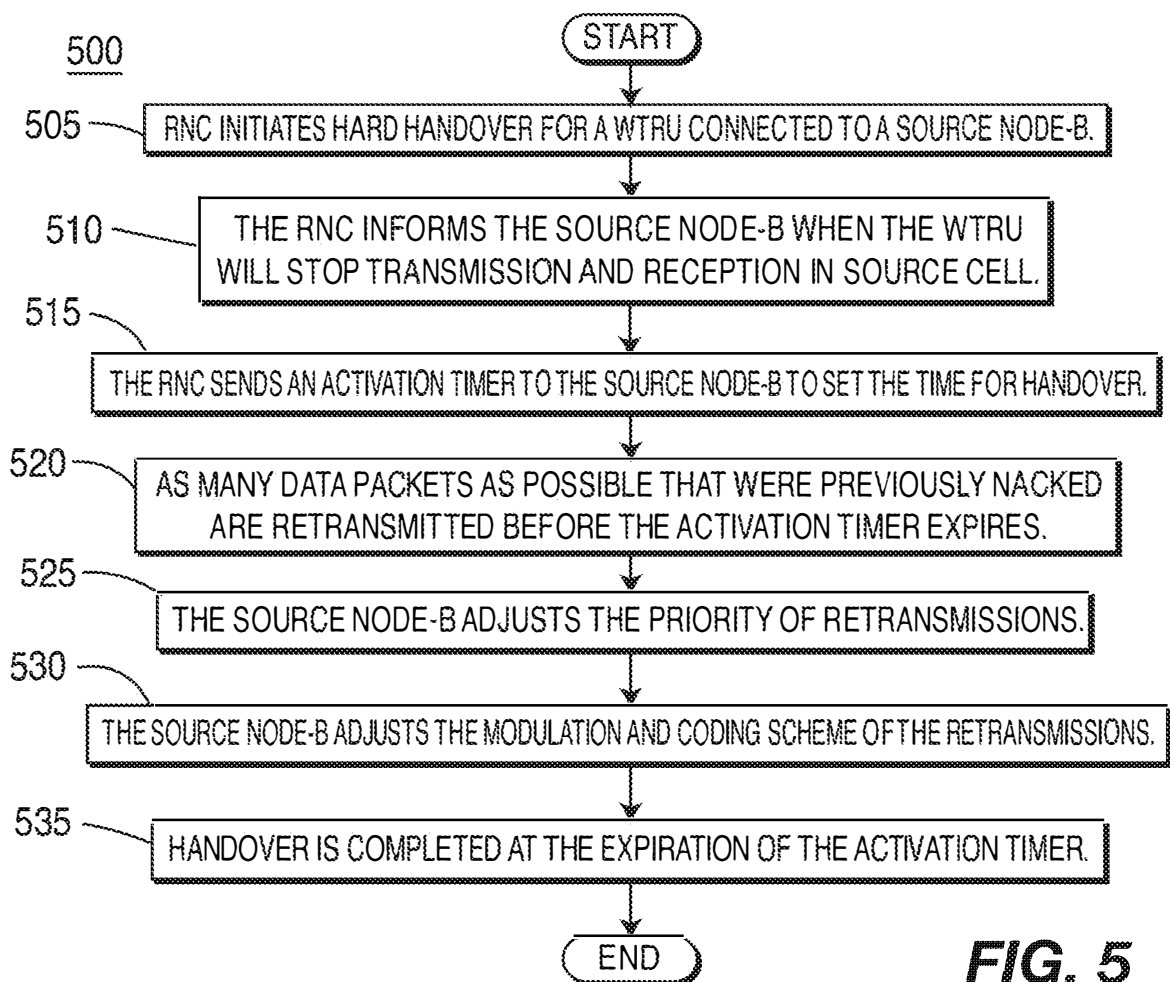
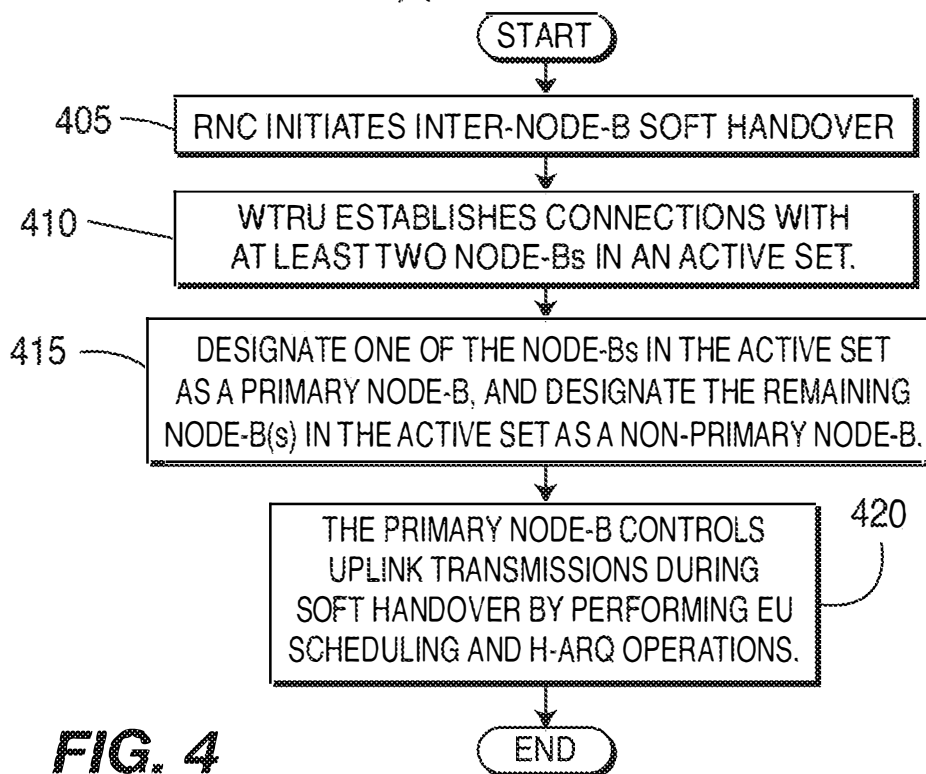


FIG. 5

SUPPORTING UPLINK TRANSMISSIONS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. Patent Application No. 16/283,407, filed February 22, 2019, which is a continuation of U.S. Patent Application No. 15/699,418 filed on September 8, 2017, now U.S. Patent No. 10,219,196 issued on February 26, 2019, which is a continuation of U.S. Patent Application No. 14/869,313, filed on September 29, 2015, now U.S. Patent No. 9,763,156 issued on September 12, 2017, which is a continuation of U.S. Patent Application No. 13/908,242 filed on June 3, 2013, now U.S. Patent No. 9,215,636 issued on December 15, 2015, which is a continuation of U.S. Patent Application No. 13/308,950 filed on December 1, 2011, now U.S. Patent 8,457,072 issued on June 4, 2013, which is a continuation of U.S. Patent Application No. 11/434,330 filed on May 15, 2006, now U.S. Patent 8,130,720 issued on March 6, 2012, which is a continuation of U.S. Patent Application No. 10/962,720 filed October 12, 2004, now U.S. Patent 7,046,648 issued on May 16, 2006, which claims the benefit of U.S. Provisional Application Serial Nos. 60/578,674 filed June 10, 2004; 60/520,692 filed November 17, 2003; 60/519,990 filed November 14, 2003; and 60/517,656 filed November 5, 2003, all of which are incorporated by reference as if fully set forth.

FIELD OF INVENTION

[0002] The present invention is related to a wireless communication system. More particularly, the present invention is related to a method and apparatus for coordinating Node-Bs and supporting enhanced uplink (EU) transmissions during handover.

BACKGROUND

[0003] Many schemes have been proposed to improve coverage, throughput, and transmission latency for EU transmissions in third generation partnership

project (3GPP). One of the developments is to move the functions for scheduling and assigning uplink (UL) physical channel resources from a radio network controller (RNC) to a Node-B. A Node-B can make more efficient decisions and manage UL radio resources on a short-term basis better than the RNC, even if the RNC retains overall control over Node-Bs. A similar approach has already been adopted in downlink for high speed data packet access (HSDPA) in both universal mobile telecommunication system (UMTS) frequency division duplex (FDD) and time division duplex (TDD) modes.

[0004] It has also been recognized that performance is greatly enhanced with the use of medium access control (MAC) level automatic repeat request (ARQ) and hybrid ARQ (H-ARQ). Application of these techniques during soft handover provides additional significant benefits.

[0005] Figure 1 shows a conventional wireless multi-cell communication system 100 including a wireless transmit/receive unit (WTRU) 105, a Node-B 110, an RNC 115, and at least two cells 120A, 120B. Each of the cells 120A, 120B, is served by the Node-B 110. Node-B 110 is controlled by the RNC 115. When a change in the cell offering the best radio conditions is determined between cells 120A and 120B, a handover process is initiated.

[0006] An "intra-Node-B handover" occurs when a WTRU changes from one cell to another cell controlled by the same Node-B, as shown in Figure 1. An "inter-Node-B handover" occurs when a WTRU changes from one cell to another cell controlled by a different Node-B. In the latter case, the Node-B that controls the cell before the handover is called a source Node-B, and the Node-B that controls the cell after the handover is called a target Node-B.

[0007] During soft handover, a WTRU establishes a plurality of connections with a plurality of Node-Bs in an active set. In this situation, a problem may arise for scheduling and H-ARQ operation. A WTRU may receive conflicting EU transmission scheduling from more than one Node-B. It is also difficult for the WTRU to receive, decode and process H-ARQ positive and negative

acknowledgements (ACKs/NACKs) generated by a plurality of Node-Bs. The soft buffer of an H-ARQ process in Node-Bs may be corrupted during soft handover.

[0008] One method to support H-ARQ across multiple Node-Bs, when the WTRU is in soft handover, is to place the ACK/NACK generation function in the RNC, which derives a single ACK/NACK based on the results from the multiple Node-Bs. However, this approach presents a significant delay to the ACK/NACK process, which is highly undesirable for performance reasons.

[0009] When a WTRU undergoes an inter-Node-B hard handover, there is a possibility that a source Node-B, which is a Node-B before hard handover is completed, may not successfully receive EU transmissions for data packets that have been NACKed prior to hard handover activation time. Other WTRUs competing for UL resources may not be provided with enough physical resources in the source cell. If data blocks that have been NACKed prior to the handover are retransmitted to the source Node-B before the handover activation timer expires, those data blocks can be combined with the previous data blocks for H-ARQ decoding. In this way, the decoding takes the advantage of previous, although failed, transmissions of those data blocks in the source cell. If data blocks that have been NACKed prior to the handover are not retransmitted to the source Node-B before the handover activation timer is expired, they have to be transmitted again in the target cell as new data blocks. In this case, the previous transmissions of those data blocks in the source cell are not utilized.

SUMMARY

[0010] An enhanced uplink user equipment is in soft handover. A radio network controller selects a primary Node-B out of a plurality of Node-Bs supporting the soft handover. The radio network controller receiving successfully received enhanced uplink data packets from the plurality of Node-Bs. The radio network controller reordered the successfully received enhanced uplink data packets for in-sequence deliver. The primary Node-B sends specified scheduling

information to the user equipment that the other Node-Bs does not transmit. At least the primary Node-B transmits acknowledgements and negative acknowledgements to the user equipment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] A more detailed understanding of the invention may be had from the following description, given by way of example and to be understood in conjunction with the accompanying drawings wherein:

[0012] Figure 1 shows a conventional wireless communication system;

[0013] Figure 2 shows a system which uses a UL scheduler located in a primary Node-B during soft handover for EU in accordance with the present invention;

[0014] Figure 3 shows a system which uses an ACK/NACK generation function located in a primary Node-B during soft handover for EU in accordance with the present invention;

[0015] Figure 4 is a flowchart of a process including method steps for coordinating Node-Bs during soft handover in accordance with one embodiment of the present invention; and

[0016] Figure 5 is a flowchart of a process including method steps for prioritizing the transmission of NACKed data in a source Node-B before hard handover is completed in accordance with a separate embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0017] The present invention will be described with reference to the drawing figures wherein like numerals represent like elements throughout.

[0018] Hereafter, the terminology "WTRU" includes but is not limited to a user equipment (UE), a mobile station, a fixed or mobile subscriber unit, a pager, or any other type of device capable of operating in a wireless environment.

[0019] When referred to hereafter, the terminology "Node-B" includes but is not limited to a base station, a site controller, an access point or any other type of interfacing device in a wireless environment.

[0020] The present invention may be implemented in any type of wireless communication systems, such as UMTS - FDD, TDD, time division synchronous code division multiple access (TDSCDMA), code division multiple access 2000 (CDMA2000) (EV-DO and EV-DV) or any other type of wireless communication system.

[0021] The features of the present invention may be incorporated into an IC or be configured in a circuit comprising a multitude of interconnecting components.

[0022] Figure 2 shows a wireless multi-cell communication system 200 which uses a UL scheduler located in a primary Node-B in accordance with the present invention. The wireless multi-cell communication system 200 includes a WTRU 205, a plurality of Node-Bs 210 (i.e., 210A, 210B), an RNC 215 and a plurality of cells 260 (i.e., 260A, 260B, 260C). Cells 260A and 260C are served by the Node-B 210A. Cells 260B are served by the Node-Bs 210B. All of the Node-Bs 210 are controlled by the RNC 215.

[0023] During soft handover, the WTRU 205 establishes multiple connections with the Node-Bs 210 included in an active set. Each transmission from the WTRU 205 is processed independently at each of the Node-Bs 210. One of the Node-Bs 210 in the active set is designated as a primary Node-B 210A, and the other Node-Bs are designated as non-primary Node-Bs 210B.

[0024] As shown in Figure 2, the primary Node-B 210A includes a MAC entity 250A including a UL scheduler 255. Each of the non-primary Node-Bs 210B also includes a MAC entity 250B. Each of the MAC entities 250A, 250B, handles EU transmissions. The UL scheduler 255 in the MAC entity 250A is responsible for scheduling the EU transmissions.

[0025] In accordance with one embodiment of the present invention, the UL scheduler 255 is implemented only at the primary Node-B 210A during soft

handover. The WTRU 205 receives a UL transmission schedule only from the primary Node-B 210A in a primary cell 260A. However, the primary Node-B 210A cannot send the scheduling information to the non-primary Node-Bs 210B in every transmission time interval (TTI). In order to allow the primary Node-B 210A to allocate resources for the WTRU 205 to transmit in cells controlled by the non-primary Node-Bs 210B, those resources scheduled by the primary Node-B 250A in a plurality of cells 260B controlled by the non-primary Node-Bs 210B cannot be assigned by the non-primary Node-Bs 210B. Therefore, some physical resources common to all of the cells in the active EU subset should be assigned and reserved by a particular Node-B for the WTRU 205 during the soft handover, so that those resources can be used only by the primary Node-B 210A.

[0026] The UL scheduler 255 located in the primary Node-B 210A considers the interference level caused by the EU transmission at any cell 260A, 260B, 260C, in the EU active subset to be below a predetermined maximum allowed interference level. Thus, the primary Node-B 250A limits the transmit power level of the WTRU 205 such that the interference levels are also within the maximum allowed interference levels at other cells 260B, 260C. To achieve this, the RNC 215 needs to relay necessary information, such as transmission power level and interference level, of the cells 260B controlled by the non-primary Node-Bs 210B to the primary Node-B 210A, which then uses the information to schedule the UL transmissions.

[0027] The EU scheduling information is transmitted to the WTRU 205 only by the primary Node-B 210A through the primary cell 260A. During soft handover, the WTRU 205 receives EU scheduling information only in the primary cell 260A, although the EU scheduling information is valid in all other cells 260B, 260C.

[0028] In one embodiment, the primary Node-B 250A is selected by either the RNC 215 or the WTRU 205. The RNC 215 may choose a Node-B that has the highest percentage of correctly received data blocks during a predefined time window as a primary Node-B.

[0029] In another embodiment, the RNC 215 generates statistics for each

Node-B, such as a bit error rate (BER) or a frame error rate (FER), or the like, over a predetermined time period. Then, the RNC 215 may select a Node-B having the best performance to be the primary Node-B 210A. The RNC 215 then notifies the WTRU 205 and all other Node-Bs about the primary Node-B 210A via radio resource control (RRC) and Iub signaling, respectively.

[0030] In another embodiment, the WTRU 102 may choose a Node-B 210 that has the best downlink pilot power, (i.e., best downlink path loss or highest code power), as a primary Node-B 210A. The WTRU 205 measures the power of pilot signals received from all Node-Bs 210 and selects the Node-B 210 having the highest pilot power to be the primary Node-B 210A. The WTRU 205 then notifies all other Node-Bs about the primary Node-B 210A via fast physical layer signaling.

[0031] The WTRU 205 may report the downlink pilot power of all cells 260 to the RNC 215. The RNC 215 then chooses one Node-B 210 to be the primary Node-B 210a based on the combined uplink and downlink quality. The uplink quality of a cell 260 based on the percentage of correctly received data blocks, (or BER, FER, or the like), during a predefined time window, and the downlink quality of a cell 260 is based on the WTRU received downlink pilot power. Then, the RNC 215 notifies the WTRU 205 and all of the Node-Bs 210 about the primary Node-B 210A via RRC and Iub signaling, respectively.

[0032] The present invention is advantageous over prior art systems. Using the present invention, a WTRU does not receive conflicting scheduling of EU transmissions from Node-Bs during soft handover. In addition, EU transmission is scheduled in consideration of an interference level and radio resources in cells controlled by non-primary Node-Bs. Signaling delay from the primary Node-B 210A to the WTRU 205 is much lower as compared to signaling delay from the RNC 215 to the WTRU 205.

[0033] In a separate embodiment, Figure 3 shows a wireless multi-cell communication system 300, similar to the system 200 shown in Figure 2. As shown in Figure 3, the primary Node-B 210A includes a MAC entity 250A including an

ACK/NACK generator 305. Only the primary Node-B 210A has the ACK/NACK generator 305. The primary Node-B 210A may perform H-ARQ with incremental redundancy, or only ARQ without implementing incremental redundancy.

[0034] Still referring to Figure 3, the primary Node-B 210A receives at least one data packet from the WTRU 205 through the primary cell 260A and performs an error check on the data packet. Any error checking method, such as a cyclic redundancy check (CRC), may be utilized. If the primary Node-B 210A correctly decodes the data packet, such as passing the CRC, the primary Node-B 210A transmits an ACK to the WTRU 205 and also transmits the correctly decoded data packet to the RNC 215. If the primary Node-B 210A fails to correctly decode the data packet, the primary Node-B 210A transmits a NACK to the WTRU 205.

[0035] The non-primary Node-Bs 210B also perform an error check on the data packet. However, the non-primary Node-Bs 210B do not send ACKs or NACKs to the WTRU 205. Instead, the non-primary Node-Bs send successfully decoded data packets to the RNC 215. During soft handover, only the primary Node-B 210A generates H-ARQ (or ARQ), ACKs and NACKs, and controls retransmissions.

[0036] The MAC layer WTRU identities received by the non-primary Node-Bs 210B may be used for routing of successfully received transmissions in a universal terrestrial radio access network (UTRAN). Since the non-primary Node-Bs 210B are not aware of which WTRUs have been scheduled for EU transmission by the primary Node-B 210A, the non-primary Node-Bs 210B may rely on in-band MAC layer signaling of the WTRU ID to route correctly received transmissions to the correct RNC radio link. Even though the primary Node-B 210A may be aware of which WTRU is scheduled, the same method may be implemented by the primary Node-B 210A.

[0037] Preferably, the primary Node-B 210A may use soft combining to process transmissions, while the non-primary Node-Bs 210B may process each transmission without soft combining. If the primary Node-B sends a NACK to the WTRU 205, the NACKed data packet is stored in a buffer of the primary Node-B

210A, and the NACKed data packet is combined with a retransmitted data packet. In contrast, the non-primary Node-Bs 210B do not store the NACKed data packets. This eliminates the problem of soft buffer corruption between the Node-Bs 210, and the complexities of multiple independent ACKs and/or NACKs.

[0038] When an incremental combining process is implemented, measures should be taken to avoid soft buffer corruption. Sequence information or a new data indicator is required to enable a Node-B 210 to detect that the WTRU 205 is no longer repeating data for a particular WTRU H-ARQ process, but instead is sending new data. This is specifically required because the Node-B 210 has no other way to learn that a new transmission has started. Alternatively, the non-primary Node-Bs 210B may simply perform an ARQ, without using an incremental combining process. This eliminates the soft buffer corruption problem.

[0039] In the case where non-primary Node-Bs 210B perform simple ARQ without incremental combining, the WTRU 205 must transmit self-decodable data packets to ensure that all of the Node-Bs 210 may decode transmissions, regardless of the result of earlier transmissions. Preferably, the H-ARQ functionality is terminated at the Node-Bs 210. Each of the Node-Bs 210 sends to the RNC 215 successfully decoded data packets with explicit identification of transmission, such as a transmission sequence number (TSN). The RNC 215 may optionally use data packets delivered from the non-primary Node-Bs 210B. A MAC entity 310, located in the RNC 215, is used to implement an in-sequence delivery process for delivering data to higher layers over all of the packets received from the Node-Bs 210. After the RNC MAC entity 310 has completed its re-ordering process, it sends the data to a radio link control (RLC) (not shown). Missed packets are identified at the RNC 215 and the WTRU 205 is informed through RLC messaging.

[0040] Alternatively, EU transmissions may identify WTRU ID, H-ARQ process, transmission sequence and/or new data indication (NDI) to allow for soft combining in the non-primary Node-B's 210B. If this method is used to allow soft combining in the non-primary Node-Bs 210B, the primary Node-B 210A may not

have to rely on scheduling and H-ARQ ACK/NACK decisions to determine when combining should be performed.

[0041] There are two options for the transmission of ACK/NACK messages. The first option is a synchronous transmission. The ACK/NACK messages are transmitted after a unique time delay with respect to the corresponding uplink transmission or the EU channel allocation message. The second option is an asynchronous transmission. There is no unique delay between the transmission of ACK/NACK messages and the corresponding uplink transmission or the EU channel allocation message. Explicit information in the ACK/NACK message identifies the corresponding uplink transmission to enable the WTRU 205 to make the correct association between the ACK/NACK message and the transmission. This association is made by either identifying the H-ARQ process number and/or a unique sequence number, such as a TSN with each ACK/NACK feedback message to the WTRU 205.

[0042] In a separate embodiment, preferably implemented for the asynchronous ACK/NACK feedback case, the non-primary Node-Bs 210B may provide H-ARQ ACK/NACK results to the primary Node-B 210A in order to avoid unnecessary retransmissions for transmissions that are not correctly received by the primary Node-B 210A, but are correctly received by the non-primary Node-Bs 210B. A non-primary Node-B 210B does not directly send an ACK or NACK message to the WTRU 205. The non-primary Node-Bs 210B sends ACK/NACK or CRC results to the RNC 215. Then, the RNC 215 sends ACK or CRC results to the primary Node-B 210A.

[0043] In order to speed up H-ARQ processing, the first ACK message from any non-primary Node-B 210B received by the RNC is preferably immediately forwarded to the primary Node-B 210A. The primary Node-B 210A also immediately generates an ACK message if the transmission is received correctly in the primary Node-B 210A without waiting for feedback from the non-primary Node-Bs 210B. The primary Node-B 210A also generates an ACK message immediately

upon reception of a forwarded ACK message from the RNC, even if other ACK messages may be forwarded. Since an ACK is generated if any of the paths are successful, an ACK can be generated as soon as the first successful transmission is found.

[0044] Alternatively, in order to simplify the design of the ACK/NACK generator 205, only a subset of the generating nodes may be used. For example, ACKs may be generated only at the RNC, or at the RNC and the primary Node-B 210A.

[0045] When the WTRU 205 sends an uplink transmission, for each H-ARQ process the WTRU 205 waits at least the time required for the primary Node-B 210A to send ACK/NACK feedback. For each H-ARQ process, if an ACK is received by the WTRU 205, the WTRU 205 may send new data in the next available or assigned opportunity.

[0046] A NACK message can only originate in the RNC 215 since it is the only node that has all of the information necessary in the soft handover to determine that there have been no successful receptions at any Node-B 210. The RNC 215 generates a NACK command if the RNC 215 receives no ACK from the Node-Bs 210 within a predetermined time interval. The RNC 215 forwards the NACK message to the WTRU 205 via the primary Node-B 210A.

[0047] It is also possible that this procedure can be implemented without an explicit NACK command. In this case, the lack of ACK reception within a particular period of time is considered the same as an explicit NACK command at either the primary Node-B 210A and/or the WTRU 205.

[0048] Figure 4 is a flowchart of a process 400 including method steps for coordinating Node-Bs during soft handover in accordance with one embodiment of the present invention. In step 405, the RNC 215 makes a decision to initiate an inter-Node-B soft handover. In step 410, the WTRU 205 establishes connections with at least two Node-Bs 210 in an active set. In step 415, one of the Node-Bs 210 in the active set is designated as a primary Node-B 210A and the one or more Node-

B(s) 210 remaining in the active set are designated as a non-primary Node-Bs 210B. In step 420, the primary Node-B 210A controls UL transmissions during soft handover by performing EU scheduling and H-ARQ operations.

[0049] Figure 5 is a flowchart of a process 500 including method steps for prioritizing the transmission of NACKed data in a source Node-B before hard handover is completed in accordance with a separate embodiment of the present invention. In step 505, the RNC 215 makes a decision to initiate a hard handover for a WTRU 205 connected to a source Node-B 210. In step 510, the RNC 215 informs the source Node-B 210 when the WTRU 205 will stop transmission and reception in the source cell 260. In step 515, the RNC 215 sends an activation timer to the source Node-B 210 to set the time for handover.

[0050] Still referring to Figure 5, if the source Node-B 210 determines that there are data packets that were previously NACKed, as many previously NACKed data packets as possible should be retransmitted before the handover activation timer expires. Otherwise, the system may lose the benefit of incrementally combining the previous transmission with the retransmission. Therefore, the source Node-B scheduler 255 takes the handover activation time into account when it schedules the data packets that have been NACKed. If there is not enough radio resource for the source Node-B 210 to schedule transmission of all the NACKed data packets in time, the source Node-B 210 should manage to schedule transmission of as many NACKed data packets as possible.

[0051] Still referring to Figure 5, in order to transmit as many NACKed data packets as possible before the activation timer expires, the source Node-B 210 adjusts the priority of transmissions (step 525) and, in step 530, the source node-B 210 adjusts the MCS of the transmissions (step 530). Higher priority of scheduling is given to the data packets that have been NACKed. If the radio resources are sufficient, a more robust MCS may be used to increase the probability of successful transmissions from the WTRU 205 to the source Node-B 210. In step 535, the handover is completed at the expiration of the activation timer.

[0052] In order for the WTRU 205 to understand that the scheduled uplink transmission is intended for data blocks with previous transmission failures, the source Node-B 210 uplink scheduler 255 may specify that the scheduled UL transmission is intended for the data blocks that were previously NACKed. This may be implemented by including H-ARQ process identification in the UL scheduling information that is sent from the source Node-B 210 to the WTRU 205. By receiving the scheduling information from the source Node-B 210, the WTRU 205 knows that the scheduled transmission is for specific data associated with HARQ process identification sent together with the scheduling information.

[0053] While this invention has been particularly shown and described with reference to preferred embodiments, it will be understood by those skilled in the art that various changes in forms and details may be made therein without departing from the scope of the invention as described above.

*

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CLAIMS

What is claimed is:

1. A wireless transmit/receive unit, WTRU, comprising:
at least one transceiver; and
a processor;
the processor causing the at least one transceiver to:
transmit a data block to a base station using a H-ARQ process; and
receive uplink scheduling information from the base station, wherein the
uplink scheduling information includes a H-ARQ process identification of the H-
ARQ process;
the processor being configured to determine whether to retransmit the data
block based on the H-ARQ process identification.
2. The WTRU of claim 1 wherein the reception of the uplink scheduling
information indicates retransmission of a NACK'ed data block.
3. The WTRU of claim 1 wherein the uplink scheduling information
includes physical channel resources.
4. The WTRU of claim 1 wherein the uplink scheduling information is
received from a primary cell and the WTRU transmits to the primary cell and at
least one secondary cell.
5. The WTRU of claim 1 further comprising the processor causing the at
least one transceiver to receive an ACK/NACK signal from the base station.
6. The WTRU of claim 1 wherein the scheduling information indicates a
modulation and coding scheme.

7. A method comprising:
transmitting, by a wireless transmit/receive unit (WTRU), a data block to a base station using a H-ARQ process;
receiving, by the WTRU, uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process; and
determining, by the WTRU, whether to retransmit the data block based on the H-ARQ process identification.
8. The method of claim 7 wherein the reception of the uplinks scheduling information indicates retransmission of a NACK'ed data block.
9. The method of claim 7 wherein the uplink scheduling information includes physical channel resources.
10. The method of claim 7 wherein the uplink scheduling information is received from a primary cell and the WTRU transmits to the primary cell and at least one secondary cell.
11. The method of claim 7 further comprising receiving, by the WTRU, an ACK/NACK signal from the base station.
12. The method of claim 7 wherein the scheduling information indicates a modulation and coding scheme.

ABSTRACT

A method and a wireless transmit/receive unit (WTRU) supporting uplink transmissions. The method being used in a WTRU and comprising transmitting a data block to a base station using a H-ARQ process, receiving uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process, and determining whether to retransmit the data block based on the H-ARQ process identification. The reception of the uplinks scheduling information indicates retransmission of a NACK'ed data block. The uplink scheduling information includes physical channel resources. The uplink scheduling information is received from a primary cell and the WTRU transmits to the primary cell and at least one secondary cell. The scheduling information indicates a modulation and coding scheme.

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		SUPPORTING UPLINK TRANSMISSIONS		
First Named Inventor/Applicant Name:		Guodong Zhang		
Filer:		Joseph P. Gushue/Margaret Ferello		
Attorney Docket Number:		SIG-2-0674US09		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1720

Electronic Acknowledgement Receipt

EFS ID:	36921293
Application Number:	16545398
International Application Number:	
Confirmation Number:	4478
Title of Invention:	SUPPORTING UPLINK TRANSMISSIONS
First Named Inventor/Applicant Name:	Guodong Zhang
Customer Number:	3624
Filer:	Joseph P. Gushue/Margaret Ferello
Filer Authorized By:	Joseph P. Gushue
Attorney Docket Number:	SIG-2-0674US09
Receipt Date:	20-AUG-2019
Filing Date:	
Time Stamp:	14:20:16
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1720
RAM confirmation Number	E20198JE21435722
Deposit Account	220493
Authorized User	Margaret Ferello

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	SIG_2_0674US09_Declarations.PDF	4870605	no	5
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Warnings:					
Information:					
2	Power of Attorney	SIG_2_0674US09_Power_to_Prosecute.PDF	157590	no	2
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Warnings:					
Information:					
3	Assignee showing of ownership per 37 CFR 3.73	SIG_2_0674US09_Statement_3_73_c.PDF	123350	no	3
			36385dc9ac6a19c6f1ff19317f20f651fe0c593d		
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Information:					
4	Application Data Sheet	SIG_2_0674US09_ADS.PDF	1257272	no	10
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Warnings:					
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5	Drawings-only black and white line drawings	SIG_2_0674US09_Drawings_efs.PDF	1980907	no	4
			4c6f11d41045e08760a0aa522a6495fd05c4f32b		
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6		SIG_2_0674US09_Application_efs.PDF	92418	yes	16
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	Multipart Description/PDF files in .zip description				
	Document Description	Start	End		

	Specification	1	13
	Drawings-only black and white line drawings	14	15
	Abstract	16	16

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7	Fee Worksheet (SB06)	fee-info.pdf	34755	no	2
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New International Application Filed with the USPTO as a Receiving Office

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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	SUPPORTING ENHANCED UPLINK TRANSMISSION DURING SOFT HANDOVER
-----------------------	---

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 13/908,242

filed on June 3, 2013

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

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

I have reviewed and understand the contents of the above-identified application, including the claims

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

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.

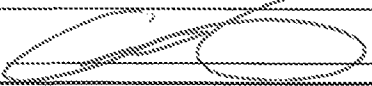
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LEGAL NAME OF INVENTOR

Inventor: Guodong Zhang

Date: 8/29/13

Signature: 

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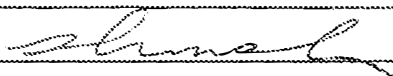
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LEGAL NAME OF INVENTOR

Inventor: Sung-Hyuk Shin

Date: Sep 1, 2013

Signature: 

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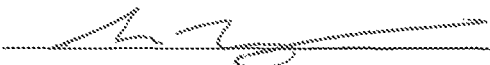
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LEGAL NAME OF INVENTOR

Inventor: Stephen E. Terry

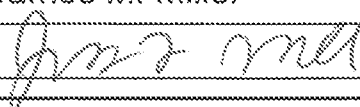
Date: 10/3/13

Signature: 

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LEGAL NAME OF INVENTOR Inventor: <u>James M. Miller</u> Date: <u>8/29/13</u> Signature: <u></u>	
Note: An application data sheet (PTO/AIA/14 or equivalent), including naming the entire inventive entity, must accompany this form. Use an additional form for each additional inventor.	

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LEGAL NAME OF INVENTOR

Inventor: Stephen G. Dick

Date: 10/3/13

Signature: Stephen G. Dick

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

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Doc code: PET.OP.AGE

Description: Petition to make special based on age/health

PTO/SB/130 (01-19)

Approved for use through 11/30/2020. OMB 0651-0031

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PETITION TO MAKE SPECIAL BASED ON AGE FOR ADVANCEMENT OF EXAMINATION UNDER 37 CFR 1.102(c)(1)					
Application Information					
Application Number	16/545,398	Confirmation Number	4478	Filing Date	August 20, 2019
Attorney Docket Number (optional)	SIG-2-0674US09	Art Unit	Not Yet Known	Examiner	Not Yet Known
First Named Inventor	Guodong Zhang				
Title of Invention	SUPPORTING UPLINK TRANSMISSIONS				
Attention: Office of Petitions An application may be made special for advancement of examination upon filing of a petition showing that the applicant is 65 years of age, or more. No fee is required with such a petition. See 37 CFR 1.102(c)(1) and MPEP 708.02 (II). APPLICANT HEREBY PETITIONS TO MAKE SPECIAL FOR ADVANCEMENT OF EXAMINATION IN THIS APPLICATION UNDER 37 CFR 1.102(c)(1) and MPEP 708.02 (II) ON THE BASIS OF THE APPLICANT'S AGE. A grantable petition requires one of the following items: (1) Statement by one named inventor in the application that he/she is 65 years of age, or more; or (2) Certification by a registered attorney/agent having evidence such as a birth certificate, passport, driver's license, etc. showing one named inventor in the application is 65 years of age, or more.					
Name of inventor who is 65 years of age, or older					
Given Name	Middle Name	Family Name	Suffix		
Stephen	G.	Dick			
A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 11.18. Please see 37 CFR 1.4(d) for the format of the signature. Select (1) or (2): ☐ (1) I am an inventor in this application and I am 65 years of age, or more. ☒ (2) I am an attorney or agent registered to practice before the Patent and Trademark Office, and I certify that I am in possession of evidence, and will retain such in the application file record, showing that the inventor listed above is 65 years of age, or more.					
Signature	/Joseph P. Gushue/		Date (YYYY-MM-DD)	August 20, 2019	
Name	Joseph P. Gushue		Registration Number	59,819	

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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.
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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 Acknowledgement Receipt

EFS ID:	36925596
Application Number:	16545398
International Application Number:	
Confirmation Number:	4478
Title of Invention:	SUPPORTING UPLINK TRANSMISSIONS
First Named Inventor/Applicant Name:	Guodong Zhang
Correspondence Address:	VOLPE AND KOENIG, P.C. - 30 SOUTH 17TH STREET, 18th Floor - PHILADELPHIA PA 19103 US 215-568-6400 eoffice@volpe-koenig.com
Filer:	Joseph P. Gushue/Margaret Ferello
Filer Authorized By:	Joseph P. Gushue
Attorney Docket Number:	SIG-2-0674US09
Receipt Date:	20-AUG-2019
Filing Date:	
Time Stamp:	14:30:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition to make special based on Age/ Health	SIG_2_0674US09_Petition_to_Make_Special_Based_on_Age.PDF	264719 21eaafffa023e4f09c67d46b77e4aa851c98ac3	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			264719		
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 16/545,398	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(j))	12	minus 20 = *			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2	minus 3 = *				x 460 =	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
			TOTAL			TOTAL	1720
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	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))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	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))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
			TOTAL ADD'L FEE		OR	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". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.							



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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
16/545,398	08/20/2019	2414	1720	SIG-2-0674US09	12	2

CONFIRMATION NO. 4478

3624

VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
PHILADELPHIA, PA 19103

FILING RECEIPT



Date Mailed: 08/30/2019

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Guodong Zhang, Syosset, NY;
Sung-Hyuk Shin, Northvale, NJ;
Stephen E. Terry, Northport, NY;
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Applicant(s)

Signal Trust for Wireless Innovation, Wilmington, DE;

Assignment For Published Patent Application

Signal Trust for Wireless Innovation, Wilmington, DE

Power of Attorney: The patent practitioners associated with Customer Number 03624

Domestic Priority data as claimed by applicant

This application is a CON of 16/283,407 02/22/2019
which is a CON of 15/699,418 09/08/2017 PAT 10219196
which is a CON of 14/869,313 09/29/2015 PAT 9763156
which is a CON of 13/908,242 06/03/2013 PAT 9215636
which is a CON of 13/308,950 12/01/2011 PAT 8457072
which is a CON of 11/434,330 05/15/2006 PAT 8130720
which is a CON of 10/962,720 10/12/2004 PAT 7046648
which claims benefit of 60/578,674 06/10/2004
and claims benefit of 60/520,692 11/17/2003
and claims benefit of 60/519,990 11/14/2003

and claims benefit of 60/517,656 11/05/2003

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 Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 08/28/2019

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/545,398**

Projected Publication Date: 12/05/2019

Non-Publication Request: No

Early Publication Request: No

Title

SUPPORTING UPLINK TRANSMISSIONS

Preliminary Class

370

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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.

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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>.

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

Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,628,631	05/1997	Aneha			
		5,794,149	08/1998	Hoo			
		5,933,787	08/1999	Gilhousen et al.			
		5,946,320	08/1999	Decker et al.			
		6,434,396	08/2002	Rune			
		6,507,567	01/2003	Willars ²²			
		6,628,631	09/2003	Mazawa et al. ²⁶			
		6,643,813	11/2003	Johansson et al.			
		6,650,905	11/2003	Toskala et al.			
		6,678,249	01/2004	Toskala et al. ⁴			
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		6,915,465	07/2005	Fujiwara et al.			
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		7,124,350	10/2006	Chao et al.			
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		7,185,256	02/2007	Miki et al. ¹⁰			
		7,185,256	02/2007	Miki et al. ²⁴			

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		7,206,598	04/2007	Attar et al.			
		7,266,384	09/2007	Kim et al.			
		7,269,420	09/2007	Heo et al.			
		7,277,407	10/2007	Kim et al.			
		7,283,508	10/2007	Choi et al.			
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		7,315,741	01/2008	Chun			
		7,317,700	01/2008	Hwang			
		7,346,035	03/2008	Lee et al.			
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		2002/0093937	07/2002	Kim et al. ¹¹			
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		2002/0172208	11/2002	Malkamaki			

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		2002/0191544	12/2002	Cheng et al.			
		2003/0007480	01/2003	Kim et al.			
		2003/0002470	01/2003	Park et al.			
		2003/0043786	03/2003	Kall et al.			
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		2003/0131124	07/2003	Yi et al.			
		2003/0147370	08/2003	Wu			
		2003/0161284	08/2003	Chen			
		2003/0171118	09/2003	Miya ³¹			
		2003/0176195	09/2003	Dick et al. ³⁰			
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		2003/0210668	11/2003	Malladi et al.			
		2003/0031119	02/2003	Kim et al.			
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		2004/0072567	04/2004	Cao et al.			
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		2004/0120306	06/2004	Wigard et al.			
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		2004/0202129	10/2004	Kolding et al.			
		2004/0203991	10/2004	Chen et al.			
		2004/0219917	11/2004	Love et al.			
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		2004/0219920	11/2004	Love et al.			
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		2005/0048920	03/2005	Liu			
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		2006/0045010	03/2006	Baker et al. ¹³			

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		2006/0105796	05/2006	Malladi et al. ¹⁴			
		2006/0274712	12/2006	Malladi et al.			
		2007/0047501	03/2007	Usuda et al. ²			
		2007/0079207	04/2007	Seidel et al. ¹⁵			

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
		04-157821	05/1992	JP				
		99/027740	06/1999	WO ¹⁶				
		0 977 393	02/2000	EP ⁵				
		00/35226	06/2000	WO				
		2000-217139	08/2000	JP				
		00/074263	12/2000	WO ³				
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		2 353 439	02/2001	GB				
		2001-128209	05/2001	JP			X**	
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		2002-009741	01/2002	JP				
		02/037872	05/2002	WO ²¹				
		02/37572	05/2002	WO				
		1 217 777	06/2002	EP				
		02/047317	06/2002	WO				
		02/082108	10/2002	WO				
		20020095231	12/2002	KR			X**	
		02/101966	12/2002	WO ²⁰				
		02/102109	12/2002	WO				
		20030003943	01/2003	KR				
		03/003643	01/2003	WO				
		03/026231	03/2003	WO ¹⁷				
		20030040972	05/2003	KR			X**	

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
							YES	NO
		2003-134180	05/2003	JP				
		03/037027	05/2003	WO				
		2003-163960	06/2003	JP			X**	
		03/047155	06/2003	WO				
		03/053087	06/2003	WO				
		536896	06/2003	TW				
		03/067953	08/2003	WO				
		200303689	09/2003	TW				
		03/088545	10/2003	WO ¹⁸				
		10225428	12/2003	DE				
		2005/048503	05/2005	WO				
		2003112283	12/2005	RU			X**	
		2005110767	10/2006	RU			X**	
		2007-511135	04/2007	JP ³²				

OTHER DOCUMENTS

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
		"Hybrid ARQ text proposal for Section 7 of TR25.896" TSG-RAN WG1 #31, R1-030208, Tokyo, Japan, February 18-21, 2002, 4 pages
		3GPP TSG RAN WG1 #31, Tdoc R1-03-0273, QUALCOMM, "Channel Structure for Consideration in Enhanced Uplink", Tokyo, Japan, 18th-21st February 2003.
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Multiplexing and channel coding (FDD) (Release 4)," 3GPP TS 25.212 V4.6.0 (September 2002).
		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Multiplexing and channel coding (FDD) (Release 5)," 3GPP TS 25.212 V5.6.0 (September 2003).
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		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Multiplexing and channel coding (FDD) (Release 6)," 3GPP TS 25.212 V6.2.0 (June 2004).
		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Medium Access Control (MAC) protocol specification (Release 1999)," 3GPP TS 25.321 V3.17.0 (June 2004).
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		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Medium Access Control (MAC) protocol specification (Release 4)," 3GPP TS 25.321 V4.9.0 (September 2003).
		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Medium Access Control (MAC) protocol specification (Release 5)," 3GPP TS 25.321 V5.9.0 (June 2004).
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**INFORMATION DISCLOSURE
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Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
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Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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		3GPP, "3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Radio Resource Control (RRC); Protocol Specification (Release 5)," 3GPP TS 25.331 V5.6.0 (September 2003).
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**INFORMATION DISCLOSURE
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Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL	DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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**INFORMATION DISCLOSURE
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Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL	DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
		THIRD GENERATION PARTNERSHIP PROJECT, "Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (FDD) (Release 4)," 3GPP TS 25.211 V4.6.0 (September 2002).
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		THIRD GENERATION PARTNERSHIP PROJECT, "Technical Specification Group Radio Access Network; Physical channels and mapping of transport channels onto physical channels (FDD) (Release 6)," 3GPP TS 25.211 V6.2.0 (September 2004).
		THIRD GENERATION PARTNERSHIP PROJECT, "Technical Specification Group Radio Access Network; Physical layer procedures (FDD) (Release 6)," 3GPP TS 25.214 V6.3.0 (September 2004).
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X** Abstract only

¹ Corresponds to RU 2004104196; ² Corresponds to RU 2006130462; ³ Corresponds to RU 2001135846; ⁴ Corresponds to WO 03/067953 and US 2003/0152031; ⁵ Corresponds to WO 98/47253; ⁶ Corresponds to US 2002/0045448; ⁷ Corresponds to WO 02/37872, JP 2004-519122 and KR 2003-0048115; ⁸ Corresponds to TW 515212; ⁹ Corresponds to JP 2002-369261; ¹⁰ Corresponds to JP 2002-009741; ¹¹ Corresponds to RU 2002116683; ¹² Corresponds to RU 2003137005; ¹³ Corresponds to RU 2005106865; ¹⁴ Corresponds to RU 2005128547; ¹⁵ Corresponds to RU 2006107917; ¹⁶ Corresponds to KR 2001-0032521; ¹⁷ Corresponds to EP 1 294 135; ¹⁸ Corresponds to DE 20305529; ¹⁹ Corresponds to EP 1 341 318; ²⁰ Corresponds to US 7,848,290; ²¹ Corresponds to US 6,678,523; ²² Corresponds to CN 1356006A and KR 1020010108485A; ²³ Corresponds to TW 536896B; ²⁴ Corresponds to JP 2002-009741A; ²⁵ Corresponds to WO/0237572A1; ²⁶ Corresponds to JP 2000-217139A; ²⁷ Corresponds to JP 2001-008251A; ²⁸ Corresponds to JP 2003-134180; ²⁹ Corresponds to WO 03/037027; ³⁰ Corresponds to TW 200303689A; ³¹ Corresponds to WO 02/102109A1; ³² Corresponds to WO 05048503 A2; ³³ Corresponds to JP 2003-501974 A.

Electronic Acknowledgement Receipt

EFS ID:	37089744
Application Number:	16545398
International Application Number:	
Confirmation Number:	4478
Title of Invention:	SUPPORTING UPLINK TRANSMISSIONS
First Named Inventor/Applicant Name:	Guodong Zhang
Customer Number:	3624
Filer:	Joseph P. Gushue/Margaret Ferello
Filer Authorized By:	Joseph P. Gushue
Attorney Docket Number:	SIG-2-0674US09
Receipt Date:	06-SEP-2019
Filing Date:	20-AUG-2019
Time Stamp:	17:08:04
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	SIG_2_0674US09_IDS_Transmittal_Letter.PDF	56538 2a91dcd52ee5d8be1f0df6fcb91327110eef8093	no	3

Warnings:

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	SIG_2_0674US09_IDS_Form_m aster_list.PDF	116157	no	10
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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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Zhang et al.

Application No.: 16/545,398

Confirmation No.: 4478

Filed: August 20, 2019

For: SUPPORTING UPLINK
TRANSMISSIONS

Group: 2466

Examiner: Faruk Hamza

Our File: SIG-2-0674US09

Date: September 6, 2019

INFORMATION DISCLOSURE STATEMENT

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

Sir:

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 Information Disclosure Statement 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.

This application is a continuation of U.S. Patent Application No. 16/283,407, filed on February 22, 2019, which is a continuation of U.S. Patent Application No. 15/699,418, filed on September 8, 2017, which issued on February 26, 2019 as U.S. Patent No. 10,219,196, which is a continuation of U.S. Patent Application No.

14/869,313, filed on September 29, 2015, which issued on September 12, 2017 as U.S. Patent No. 9,763,156, which is a continuation of U.S. Patent Application No. 13/908,242, filed on June 3, 2013, which issued on December 15, 2015 as U.S. Patent No. 9,215,636, which is a continuation of U.S. Patent Application No. 13/308,950, filed on December 1, 2011, which issued on June 4, 2013 as U.S. Patent 8,457,072, which is a continuation of U.S. Patent Application No. 11/434,330, filed on May 15, 2006, which issued on March 6, 2012 as U.S. Patent 8,130,720, which is a continuation of U.S. Patent Application No. 10/962,720, filed October 12, 2004, which issued on May 16, 2006 as U.S. Patent 7,046,648, which claims the benefit of U.S. Provisional Application No. 60/578,674, filed June 10, 2004, U.S. Provisional Application No. 60/520,692, filed November 17, 2003, U.S. Provisional Application No. 60/519,990, filed November 14, 2003, and U.S. Provisional Application No. 60/517,656, filed November 5, 2003.

Applicant also wishes to bring to the Examiner's attention co-pending U.S. Application No. 16/533,320, filed August 6, 2019, which is a continuation of U.S. Application No. 15/212,403, filed on July 18, 2016, which issued as U.S. Patent No. 10,390,279 on August 20, 2019, which is a continuation of U.S. Application No. 13/236,133, filed on September 19, 2011, which issued as U.S. Patent No. 9,438,381 on September 6, 2016, which is a continuation of 10/925,426, filed on August 25, 2004, which issued as U.S. Patent No. 8,023,463 on September 20, 2011, which claims the benefit of U.S. Provisional Application No. 60/497,747 filed on August 25,

Applicant: Signal Trust for Wireless Innovation
Application No.: 16/545,398

2003; U.S. Provisional Application No. 60/507,554 filed on October 1, 2003; U.S. Provisional Application No. 60/508,797 filed on October 3, 2003; U.S. Provisional Application No. 60/520,207 filed on November 14, 2003 and U.S. Provisional Application No. 60/585,174 filed on July 2, 2004.

It is respectfully requested that the Examiner consider these documents and return an initialed copy of the Information Disclosure Statement Form indicating consideration of the cited material.

Respectfully submitted,

Signal Trust for Wireless Innovation

By /Joseph P. Gushue/
Joseph P. Gushue
Registration No. 59,819
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Enclosure



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478
3624	7590	10/16/2019	EXAMINER	
VOLPE AND KOENIG, P.C.			HAMZA, FARUK	
30 SOUTH 17TH STREET, 18th Floor				
PHILADELPHIA, PA 19103				
			ART UNIT	PAPER NUMBER
			2466	
			NOTIFICATION DATE	DELIVERY MODE
			10/16/2019	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):

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In re Application of

Zhang et al.

Application No. 16/545,398

Filed: 20 Aug 2019

For: SUPPORTING UPLINK TRANSMISSIONS

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DECISION ON PETITION

This is a decision on the petition under 37 CFR 1.102(c)(1), filed August 20, 2019, to make the above-identified application special based on applicant's age as set forth in M.P.E.P. § 708.02, Section IV.

The petition is **GRANTED**.

A grantable petition to make an application special under 37 CFR 1.102(c)(1) and MPEP § 708.02, Section IV: Applicant's Age must be accompanied by evidence showing that at least one of the applicants is 65 years of age, or more, such as a birth certificate or a statement by applicant. No fee is required

The instant petition includes a statement made by registered attorney Joseph P. Gushue, which will be treated as the result of the attorney having evidence that at least one inventor is at least 65 years of age or more. In the event that such evidence is not with the attorney, the Office should be notified immediately. Accordingly, the above-identified application has been accorded "special" status.

Telephone inquiries concerning this decision should be directed to the undersigned at (571) 272-6735. All other inquiries concerning this application should be directed to the Technology Center at (571) 272-2400.

This application is being forwarded to the examiner for action on the merits commensurate with this decision.

/Diane C. Goodwyn/

Diane C. Goodwyn

Paralegal Specialist

Office of Petitions

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16545398
	Filing Date	2019-08-20
	First Named Inventor	Guodong Zhang
	Art Unit	2466
	Examiner Name	Faruk Hamza
	Attorney Docket Number	SIG-2-0674US09

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	7372898	B2	2008-05-13	Shin et al.	
	2	10390279	B2	2019-08-20	Dick et al.	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add

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

Application Number	16545398
Filing Date	2019-08-20
First Named Inventor	Guodong Zhang
Art Unit	2466
Examiner Name	Faruk Hamza
Attorney Docket Number	SIG-2-0674US09

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		

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

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
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*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		16545398
	Filing Date		2019-08-20
	First Named Inventor	Guodong Zhang	
	Art Unit	2466	
	Examiner Name	Faruk Hamza	
	Attorney Docket Number	SIG-2-0674US09	

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	/Joseph P. Gushue/	Date (YYYY-MM-DD)	2019-10-30
Name/Print	Joseph P. Gushue	Registration Number	59,819

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.**

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.
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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.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Zhang et al.

Application No.: 16/545,398

Confirmation No.: 4478

Filed: August 20, 2019

For: SUPPORTING UPLINK
TRANSMISSIONS

Group: 2466

Examiner: Faruk Hamza

Our File: SIG-2-0674US09

Date: October 30, 2019

INFORMATION DISCLOSURE STATEMENT

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

Sir:

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 PTO Form SB-08.

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. 16/283,407, filed on February 22, 2019, which is a continuation of U.S. Patent Application No. 15/699,418, filed on September 8, 2017, which issued on February 26, 2019 as U.S. Patent No. 10,219,196, which is a continuation of U.S. Patent Application No.

14/869,313, filed on September 29, 2015, which issued on September 12, 2017 as U.S. Patent No. 9,763,156, which is a continuation of U.S. Patent Application No. 13/908,242, filed on June 3, 2013, which issued on December 15, 2015 as U.S. Patent No. 9,215,636, which is a continuation of U.S. Patent Application No. 13/308,950, filed on December 1, 2011, which issued on June 4, 2013 as U.S. Patent 8,457,072, which is a continuation of U.S. Patent Application No. 11/434,330, filed on May 15, 2006, which issued on March 6, 2012 as U.S. Patent 8,130,720, which is a continuation of U.S. Patent Application No. 10/962,720, filed October 12, 2004, which issued on May 16, 2006 as U.S. Patent 7,046,648, which claims the benefit of U.S. Provisional Application No. 60/578,674, filed June 10, 2004, U.S. Provisional Application No. 60/520,692, filed November 17, 2003, U.S. Provisional Application No. 60/519,990, filed November 14, 2003, and U.S. Provisional Application No. 60/517,656, filed November 5, 2003.

Applicant also wishes to bring to the Examiner's attention co-pending U.S. Application No. 16/533,320, filed August 6, 2019, which is a continuation of U.S. Application No. 15/212,403, filed on July 18, 2016, which issued as U.S. Patent No. 10,390,279 on August 20, 2019, which is a continuation of U.S. Application No. 13/236,133, filed on September 19, 2011, which issued as U.S. Patent No. 9,438,381 on September 6, 2016, which is a continuation of 10/925,426, filed on August 25, 2004, which issued as U.S. Patent No. 8,023,463 on September 20, 2011, which claims the benefit of U.S. Provisional Application No. 60/497,747 filed on August 25,

Applicant: Signal Trust for Wireless Innovation
Application No.: 16/545,398

2003; U.S. Provisional Application No. 60/507,554 filed on October 1, 2003; U.S. Provisional Application No. 60/508,797 filed on October 3, 2003; U.S. Provisional Application No. 60/520,207 filed on November 14, 2003 and U.S. Provisional Application No. 60/585,174 filed on July 2, 2004.

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

Respectfully submitted,

Signal Trust for Wireless Innovation

By /Joseph P. Gushue/
Joseph P. Gushue
Registration No. 59,819
(215) 568-6400

Volpe and Koenig, P.C.
30 South 17th Street; Suite 1800
Philadelphia, PA 19103-4009
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

JPG/JMB/pf
Enclosure

Electronic Acknowledgement Receipt

EFS ID:	37602894
Application Number:	16545398
International Application Number:	
Confirmation Number:	4478
Title of Invention:	SUPPORTING UPLINK TRANSMISSIONS
First Named Inventor/Applicant Name:	Guodong Zhang
Customer Number:	3624
Filer:	Joseph P. Gushue/Margaret Ferello
Filer Authorized By:	Joseph P. Gushue
Attorney Docket Number:	SIG-2-0674US09
Receipt Date:	30-OCT-2019
Filing Date:	20-AUG-2019
Time Stamp:	16:14:08
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	SIG_2_0674US09_IDS_Form_SB08.PDF	1034470 1dcef746eb1ee120967c1acb2aca5750da3b3502	no	4

Warnings:

Information:					
2	Transmittal Letter	SIG_2_0674US09_IDS_Transmittal_Letter_efs.PDF	56333	no	3
			2b7ee7f815bb924f6ac19913af070229115e6029		
Warnings:					
Information:					
Total Files Size (in bytes):			1090803		
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.					



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 759 11/07/2019
VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
PHILADELPHIA, PA 19103

EXAMINER

ROBERTS, BRIAN S

ART UNIT

PAPER NUMBER

2466

DATE MAILED: 11/07/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478

TITLE OF INVENTION: SUPPORTING UPLINK TRANSMISSIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	02/07/2020

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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)

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.

3624 7590 11/07/2019
VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
PHILADELPHIA, PA 19103

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478

TITLE OF INVENTION: SUPPORTING UPLINK TRANSMISSIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	02/07/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROBERTS, BRIAN S	2466	370-331000

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 03-09 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478
3624 7590 11/07/2019 VOLPE AND KOENIG, P.C. 30 SOUTH 17TH STREET, 18th Floor PHILADELPHIA, PA 19103				
EXAMINER ROBERTS, BRIAN S				
ART UNIT 2466		PAPER NUMBER		
DATE MAILED: 11/07/2019				

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 30 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

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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.
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.
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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. 16/545,398	Applicant(s) Zhang et al.	
	Examiner BRIAN S ROBERTS	Art Unit 2466	AIA (FITF) 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 the application filed on 08/20/2019.
☐ 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 1-12. 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)	5. ☐ Examiner's Amendment/Comment
2. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____.	6. ☒ Examiner's Statement of Reasons for Allowance
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material ____.	7. ☐ Other ____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. ____.	

/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466	
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Examiner's Statement of Reasons for Allowance

Notice of Pre-AIA or AIA Status

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

Claims 1-12 are allowed.

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

The primary reason independent claim 1 is allowable is because the closest prior art of record, US 667853 by Ghosh et al. and US 2003/0123470 by Kim et al., fails to teach or fairly suggest either alone or in combination with the prior art of record a wireless transmit/receive unit that includes at least one transceiver; and a processor; the processor causing the at least one transceiver to: receive uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process and the processor being configured to determine whether to retransmit the data block based on the H-ARQ process identification.

The primary reason independent claim 7 is allowable is because the closest prior art of record, US 667853 by Ghosh et al. and US 2003/0123470 by Kim et al., fails to teach or fairly suggest either alone or in combination with the prior art of record a method that includes receiving, by the WTRU, uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ

process identification of the H-ARQ process; and determining, by the WTRU, whether to retransmit the data block based on the H-ARQ process identification.

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

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure are:

- US 2003/0202500
- US 2004/0219920
- US 2003/0123470
- US 2005/0207374

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN S ROBERTS whose telephone number is (571)272-3095. The examiner can normally be reached on M to F, 9am to 5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Faruk Hamza can be reached on (571) 272-7969. 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.

BRIAN S. ROBERTS
Primary Examiner
Art Unit 2466

/BRIAN S ROBERTS/
Primary Examiner, Art Unit 2466

<i>Notice of References Cited</i>	Application/Control No. 16/545,398		Applicant(s)/Patent Under Reexamination Zhang et al.	
	Examiner BRIAN S ROBERTS		Art Unit 2466	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20030202500-A1	10-2003	Ha, Sang-Hyuck	H04L1/0003	370/342
*	B	US-6678523-B1	01-2004	Ghosh; Amitava	H04L1/1812	370/331
*	C	US-20030123470-A1	07-2003	Kim, No-Sun	H04B7/2637	370/437
*	D	US-20040219920-A1	11-2004	Love, Robert T.	H04L1/0002	455/442
*	E	US-20050207374-A1	09-2005	Petrovic, Dragan	H04W28/26	370/331
	F					
	G					
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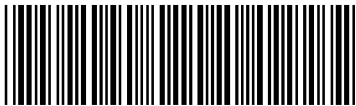
FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
PALM inventor search	10/31/2019	BSR
Search focused on: H04W36/18,00,16,0069,005,02,026,0011,30 H04L1/1887,1812,1893 H04W88/08,02 H04W36/30 H04B7/ 022	10/31/2019	BSR
EAST text search: see search history printout	10/31/2019	BSR
IEEE Xplore search "HARQ process identification"	10/31/2019	BSR

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
Interference search	See search history printout	11/01/2019	BSR

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Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

CPC						
Symbol					Type	Version
H04W	/	36	/	18	F	2013-01-01
H04W	/	74	/	04	I	2013-01-01
H04W	/	74	/	004	I	2013-01-01
H04L	/	1	/	1812	I	2013-01-01
H04L	/	1	/	1887	I	2013-01-01
H04L	/	1	/	1893	I	2013-01-01
H04B	/	7	/	022	A	2013-01-01
H04W	/	88	/	08	A	2013-01-01
H04W	/	36	/	30	A	2013-01-01

CPC Combination Sets				
Symbol	Type	Set	Ranking	Version
/				

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 12	
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466 (Primary Examiner) _____ (Date) _____		01 November 2019 O.G. Print Claim(s) 1	O.G. Print Figure 3

Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04W36/18	/	36	/ 18
NON-CLAIMED			
/	/		

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	12	
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466	01 November 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	3

Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

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

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 12					
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466 (Primary Examiner) _____ (Date) _____		01 November 2019 (Date)	<table border="1"> <tr> <td>O.G. Print Claim(s)</td> <td>O.G. Print Figure</td> </tr> <tr> <td>1</td> <td>3</td> </tr> </table>	O.G. Print Claim(s)	O.G. Print Figure	1	3
O.G. Print Claim(s)	O.G. Print Figure						
1	3						

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

Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
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**INFORMATION DISCLOSURE
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Application Number	16/545,398
Filing Date	August 20, 2019
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Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL	DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	16/545,398
Filing Date	August 20, 2019
First Named Inventor	Zhang et al.
Art Unit	2466
Examiner Name	HAMZA, FARUK
Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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**INFORMATION DISCLOSURE
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Application Number	16/545,398
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Attorney Docket Number	SIG-2-0674US09

EXAMINER INITIAL		DESCRIPTION (Including Author, Title, Date, Pertinent Pages, Etc.)
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X** Abstract only

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/BRIAN S ROBERTS/

10/30/2019

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Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 11/30/2020. OMB 0651-0031

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	16545398
	Filing Date	2019-08-20
	First Named Inventor	Guodong Zhang
	Art Unit	2466
	Examiner Name	Faruk Hamza
	Attorney Docket Number	SIG-2-0674US09

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	16545398
Filing Date	2019-08-20
First Named Inventor	Guodong Zhang
Art Unit	2466
Examiner Name	Faruk Hamza
Attorney Docket Number	SIG-2-0674US09

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Application Number	16545398
Filing Date	2019-08-20
First Named Inventor	Guodong Zhang
Art Unit	2466
Examiner Name	Faruk Hamza
Attorney Docket Number	SIG-2-0674US09

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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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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	/Joseph P. Gushue/	Date (YYYY-MM-DD)	2019-10-30
Name/Print	Joseph P. Gushue	Registration Number	59,819

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8991	(enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:21
S2	589	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:22
S3	637	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:23
S4	637	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:23
S5	459	H04L1/1887.cpc. and (enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:58
S6	459	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:04
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S16	314	H04L1/12.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 20:34
S17	637	((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))and ((HARQ or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 10:58
S18	77	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 12:38
S19	884	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 12:52
S20	107	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:11
S21	178	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:27
S22	201	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:44
S23	49	H04L1/189.cpc. and ((enhanc\$3 near2	US-PGPUB;	OR	ON	2015/02/20

		uplink) or ("e-dch") or ("EU-DCH"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:01
S24	105	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:16
S25	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:30
S26	101	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:34
S27	154	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:03
S28	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:20
S29	71	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:37
S30	10	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:44
S31	350	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/02/20 16:45

			IBM_TDB			
S32	10	"8457072".pn. "8130720".pn. "7046648".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:12
S33	2	"20040219917".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:13
S34	2273255	"73"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:14
S35	2	"7346035".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:14
S36	6	"8130720".pn. "8457072".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:32
S37	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:44
S38	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:46
S39	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:46
S40	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2015/02/20 17:47

			EPO; JPO; DERWENT; IBM_TDB			
S41	3	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:48
S42	261	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 18:03
S46	0	"6754496".pn. and "7206598".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:19
S48	9	"6754496".pn. "7206598".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:27
S49	9371	(enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:37
S50	614	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S51	665	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S52	496	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S53	362	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2015/06/22 16:11

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S54	73	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 16:52
S55	305	H04L1/12.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 17:09
S56	909	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 17:53
S57	909	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 19:40
S58	110	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 20:39
S59	188	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 20:44
S60	111	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:05
S61	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:13

S62	104	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:13
S63	161	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:23
S64	72	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:36
S65	10	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:44
S66	362	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:53
S67	20	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:27
S68	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:28
S69	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:28
S70	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2015/06/22 22:28

			DERWENT; IBM_TDB			
S71	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:29
S72	289	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:30
S73	614	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/23 11:55
S74	1148	((enhanc\$3 near2 uplink or ("e-dch")) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/23 11:55
S78	936	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 14:54
S79	380	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 17:26
S80	680	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 18:05
S81	47	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 19:49
S82	114	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR;	OR	ON	2015/08/14 20:03

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S83	195	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:12
S84	206	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:28
S85	51	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:47
S86	115	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:57
S87	103	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:08
S88	164	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:23
S89	307	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:39
S90	629	((enhanc\$3 near2 uplink or ("e-dch"))) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 10:22
S91	5	"20120155304".pn.	US-PGPUB;	OR	ON	2015/08/17

		"20120039271".pn.	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:30
S92	2	"20120322492".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 13:55
S93	2	"20140254516".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:01
S94	0	"20090247206.pn."	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S95	0	"20090247206.pn."	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S96	2	"20090247206".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S97	5	"6507567".pn. "20030131124".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 15:39
S101	639	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/05 19:26
S102	970	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/10/05 20:59

			IBM_TDB			
S103	311	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/06 07:31
S104	393	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/06 08:26
S105	527	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:03
S106	79	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:41
S107	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:53
S108	170	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:54
S109	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:08
S110	76	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:15
S111	11	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2015/10/20 20:24

			EPO; JPO; DERWENT; IBM_TDB			
S112	401	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:26
S113	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:03
S114	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:12
S115	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:15
S116	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:17
S117	4	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:22
S118	0	H04W88/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:26
S119	12891	H04W36/18.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:39
S120	401	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2015/10/21 11:28

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S121	1005	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/21 12:05
S122	400	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 18:44
S123	527	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 19:04
S124	79	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:35
S125	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:43
S126	50	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:44
S127	1005	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:50
S128	119	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 21:49

S129	7623	H04L1/1819.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 21:56
S130	242	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 12:56
S131	209	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 13:15
S132	54	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 13:44
S133	122	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 15:41
S134	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 17:04
S135	4126	H04L1/22.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 19:16
S136	107	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 15:06
S137	169	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2015/10/29 15:35

			DERWENT; IBM_TDB			
S138	31	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:20
S139	76	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:45
S140	11	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:49
S141	400	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:55
S142	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:14
S143	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:15
S144	10	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:15
S145	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:16
S146	4	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR;	OR	ON	2015/10/29 17:16

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S147	329	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:16
S148	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:27
S149	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 19:44
S150	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/31 18:36
S154	689	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:24
S155	17	"7046648".pn. "8130720".pn. "8457072".pn. "9215636".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:36
S156	8	"7283509".pn. "7366538".pn. "20010020285".pn. "20020115467".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:56
S157	1176	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 14:18
S158	504	H04W88/08.cpc. and ((enhanc\$3	US-PGPUB;	OR	ON	2016/05/26

		near2 uplink) or ("e-dch") or ("EU-DCH"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			14:23
S159	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:06
S160	570	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:07
S161	93	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:15
S162	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:16
S163	198	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:16
S164	36	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:18
S165	79	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:20
S166	13	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2016/05/26 15:22

			IBM_TDB			
S167	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:22
S168	21	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S169	7	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S170	10	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S171	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S172	6	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:26
S173	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:26
S174	1176	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:27
S175	125	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2016/05/26 15:31

			EPO; JPO; DERWENT; IBM_TDB			
S176	256	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:31
S177	214	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:44
S178	1553	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:47
S179	1645	((enhanc\$3 near2 uplink or ("e-dch")) and (HARQ or (hybrid near2 automatic near2 repeat near2 request\$4)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:48
S180	702	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 15:41
S181	1227	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 16:05
S182	516	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 17:12
S183	442	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 18:28
S184	578	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2016/07/05 19:16

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S185	1227	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 20:28
S186	94	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 09:59
S187	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:07
S188	203	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:07
S189	35	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:11
S190	80	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:13
S191	14	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:17
S192	442	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:20

S193	22	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:35
S194	9	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:38
S195	11	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:38
S196	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:41
S197	6	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:45
S198	1674	((enhanc\$3 near2 uplink or ("e-dch"))) and (HARQ or (hybrid near2 automatic near2 repeat near2 request\$4)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:45
S199	702	((enhanc\$3 near2 uplink or ("e-dch"))) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 13:18
S203	10	"716167".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/07 12:22
S204	2	"7169167".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2016/07/07 12:23

			DERWENT; IBM_TDB			
S205	1889	(enhanc\$3 near2 uplink or ("e-dch")) and (HARQ or (hybrid near2 automatic near2 repeat near2 request\$4)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/08 17:07
S206	4	"20140294884".pn. "20140349647".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/08 17:25
S207	827	((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/08 18:26
S208	57	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/09 08:06
S209	1479	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/09 08:06
S210	4	"5530841".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/10 10:35
S211	3	"5680318".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/10 10:36
S212	546	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 16:01
S213	116	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR;	OR	ON	2017/05/17 16:05

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S214	1490	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 16:09
S215	150	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 16:35
S216	1	("7283782").PN.	US-PGPUB; USPAT	OR	ON	2017/05/17 16:53
S217	2	("20020115460" "20020172208").PN.	US-PGPUB; USPAT	OR	ON	2017/05/17 16:54
S218	3	("6850771" "7428424" "9348381").PN.	US-PGPUB; USPAT	OR	ON	2017/05/17 16:54
S219	1	("7026911").PN.	US-PGPUB; USPAT	OR	ON	2017/05/17 16:54
S220	5	("6650905" "6754496" "6977888" "7065359" "7185256" "B2").PN.	US-PGPUB; USPAT	OR	ON	2017/05/17 16:54
S221	305	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 16:59
S222	234	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:04
S223	69	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:12
S224	159	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:16
S225	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2017/05/17 17:33

			EPO; JPO; DERWENT; IBM_TDB			
S226	546	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:34
S227	137	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:34
S228	272	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 17:46
S229	29	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 18:19
S230	91	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 18:21
S231	14	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 19:02
S232	1897	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/17 19:02
S233	1794	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 10:50
S234	546	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2017/05/18 11:38

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S235	14	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 14:58
S236	10	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 14:58
S237	14	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 14:59
S238	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 15:00
S239	13	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 15:00
S240	679	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2017/05/18 15:01
S244	584	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 13:33
S245	82	("0032007" "0042007" "20010020285" "20020093937" "20020095635" "20020115460" "20020115467" "20020172208" "20020191544" "20030002470" "20030007480" "20030031119" "20030043786" "20030054824"	US-PGPUB; USPAT	OR	ON	2018/06/13 13:39

		"20030081692" "20030131124" "20030147370" "20030161284" "20030171118" "20030176195" "20030202500" "20030210668" "20040004954" "20040072567" "20040085934" "20040120306" "20040160925" "20040202129" "20040203991" "20040219917" "20040219919" "20040219920" "20040228313" "20050041694" "20050047354" "20050048920" "20050083888" "20060045010" "20060105796" "20060274712" "5794149" "5946320" "6434396" "6507567" "6628631" "6643813" "6650905" "6678249" "6678523" "6754496" "6778830" "6850771" "6892071" "6907245" "6915465" "6977888" "7013143" "7026911" "7046648" "7054633" "7065359" "7103729" "7124350" "7158504" "7185256" "7206598" "7269420" "7283508" "7283509" "7283782" "7315741" "7317700" "7346035" "7366538" "7403513" "7414989" "7428424" "7848290" "7903610" "8023463" "8682325" "9438381").PN.				
S246	126	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 13:47
S247	1620	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 13:52
S248	169	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:08
S249	321	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:15
S250	244	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2018/06/13 14:22

			IBM_TDB			
S251	79	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:25
S252	167	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:30
S253	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:38
S254	584	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:38
S255	144	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:50
S256	584	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 14:55
S257	144	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:05
S258	302	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:18
S259	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2018/06/13 15:32

			EPO; JPO; DERWENT; IBM_TDB			
S260	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:32
S261	98	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:33
S262	14	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:33
S263	2134	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 15:33
S264	2355	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/06/13 16:18
S268	593	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 10:26
S269	147	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 10:31
S270	147	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 10:32
S271	309	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2018/10/04 10:35

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S272	31	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 10:45
S273	100	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:00
S274	14	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:00
S275	2418	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and interference	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:01
S276	593	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:15
S277	18	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:15
S278	11	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:17
S279	16	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:17

S280	147	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:17
S281	18	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:20
S282	18	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 11:24
S283	2	"9763156".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/10/04 12:06
S284	4	("5628631" "7277407" "7433337" "7606205").PN.	US-PGPUB; USPAT	OR	ON	2018/10/04 12:10
S288	3	("7266384" "7519016" "7558230").PN.	US-PGPUB; USPAT	OR	ON	2019/01/09 11:49
S289	1	("7974630").PN.	US-PGPUB; USPAT	OR	ON	2019/01/22 15:09
S290	5	"9918318".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/01/22 17:08
S291	72276	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 10:21
S292	42056	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (ACK or NACK)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 10:23
S293	33223	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and ACK and NACK	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2019/10/30 10:24

			DERWENT; IBM_TDB			
S294	92	("0032007" "0042007" "0122006" "20010020285" "20020093937" "20020095635" "20020115460" "20020115467" "20020172208" "20020191544" "20030002470" "20030007480" "20030031119" "20030043786" "20030054824" "20030081692" "20030131124" "20030147370" "20030161284" "20030171118" "20030176195" "20030202500" "20030210668" "20040004954" "20040072567" "20040085934" "20040120306" "20040160925" "20040202129" "20040203991" "20040219917" "20040219919" "20040219920" "20040228313" "20050041694" "20050047354" "20050048920" "20050083888" "20060045010" "20060105796" "5628631" "5794149" "5933787" "5946320" "6434396" "6507567" "6628631" "6643813" "6650905" "6678249" "6678523" "6690939" "6754496" "6778830" "6850771" "6892071" "6907245" "6915465" "6977888" "7013143" "7026911" "7046648" "7054633" "7065359" "7103729" "7124350" "7158504" "7185256" "7206598" "7266384" "7269420" "7277407" "7283508" "7283509" "7283782" "7315741" "7317700" "7346035" "7366538" "7403513" "7414989" "7428424" "7433337" "7519016" "7558230" "7606205" "7848290" "7903610" "7974630" "8023463" "8682325" "9438381").PN.	US-PGPUB; USPAT	OR	ON	2019/10/30 10:26
S295	8	"10219196".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 11:09
S296	62	h-arq near2 process near2 (id or identification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 11:32
S297	1833	harq near2 process near2 (id or identification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 12:34
S298	1654	harq near process near (id or	US-PGPUB;	OR	ON	2019/10/30

		identification)	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			12:34
S299	1662	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near process near (id or identification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 12:35
S300	1311	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near process near (id or identification) and (hybrid near2 automatic near2 repeat\$3 near2 request\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 12:36
S301	13071	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near2 process and (hybrid near2 automatic near2 repeat\$3 near2 request\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 13:59
S302	3402	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near3 (ID or identifier or identif\$8) and (hybrid near2 automatic near2 repeat\$3 near2 request\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:05
S303	3562	((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near3 (ID or identifier or identif\$8) and (hybrid near2 automatic near2 repeat\$3 near2 request\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:05
S304	2	"6678523".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:16
S305	2	"20030123470".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:17
S306	677	H04W36/18.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2019/10/30 14:44

			IBM_TDB			
S307	240	H04W36/00.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:53
S308	66	H04W36/16.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 14:58
S309	397	H04W36/0069.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:01
S310	3	"20120096513".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:02
S311	23	H04W36/005.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:07
S312	351	H04W36/02.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:10
S313	36	H04W36/026.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:12
S314	125	H04W36/0011.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 15:14
S315	841	H04W36/30.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2019/10/30 15:28

			EPO; JPO; DERWENT; IBM_TDB			
S316	5788	H04L1/1887.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 16:06
S323	13426	H04L1/1812.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 17:13
S324	3764	H04L1/1812.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (uplink or revers\$4) with schedul\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/30 17:15
S325	2	("10390279" "7372898").PN.	US-PGPUB; USPAT	OR	ON	2019/10/30 19:34
S326	2210	H04W88/08.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (uplink or revers\$4) with schedul\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/31 08:37
S327	2247	H04W88/02.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (uplink or revers\$4) with schedul\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/31 12:32
S328	450	H04W36/30.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (uplink or revers\$4) with schedul\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/31 14:51
S329	136	H04B7/022.cpc. and ((HARQ) or (H-ARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and (uplink or revers\$4) with schedul\$4	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2019/10/31 15:25

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S43	12	enhanced near2 uplink.clm. and soft near2	USPAT	OR	ON	2015/02/20

		handover.clm.				18:25
S44	4	enhanced near2 uplink.clm. and soft near2 handover.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	USPAT	OR	ON	2015/02/20 18:26
S45	7	enhanced near2 uplink.clm. and soft near2 handover.clm. and schedul\$.clm.	USPAT	OR	ON	2015/02/20 18:27
S75	12	enhanced near2 uplink.clm. and soft near2 handover.clm.	USPAT	OR	ON	2015/06/23 15:38
S76	4	enhanced near2 uplink.clm. and soft near2 handover.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	USPAT	OR	ON	2015/06/23 15:40
S77	7	enhanced near2 uplink.clm. and soft near2 handover.clm. and schedul\$.clm.	USPAT	OR	ON	2015/06/23 15:42
S98	4	enhanced near2 uplink.clm. and soft near2 handover.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	USPAT	OR	ON	2015/08/17 15:47
S99	7	enhanced near2 uplink.clm. and soft near2 handover.clm. and schedul\$.clm.	USPAT	OR	ON	2015/08/17 15:48
S100	1	enhanced near2 uplink.clm. and soft near2 handover.clm. and primary near2 cell.clm.	USPAT	OR	ON	2015/08/17 15:48
S151	4	enhanced near2 uplink.clm. and primary near2 cell.clm.	USPAT	OR	ON	2015/11/01 17:50
S152	51	enhanced near2 uplink.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	USPAT	OR	ON	2015/11/01 17:52
S153	33	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	USPAT	OR	ON	2015/11/01 17:57
S200	37	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	USPAT	OR	ON	2016/07/06 13:28
S201	94	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	US-PGPUB; USPAT	OR	ON	2016/07/06 13:28
S202	134	enhanced near2 uplink.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	US-PGPUB; USPAT	OR	ON	2016/07/06 13:29
S241	99	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	US-PGPUB; USPAT	OR	ON	2017/05/18 15:21
S242	99	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	US-PGPUB; USPAT	OR	ON	2017/05/18 15:21
S243	147	enhanced near2 uplink.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	US-PGPUB; USPAT	OR	ON	2017/05/18 15:26
S265	154	enhanced near2 uplink.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	US-PGPUB; USPAT	OR	ON	2018/06/14 09:31
S266	102	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	US-PGPUB; USPAT	OR	ON	2018/06/14 09:32
S267	10	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm. and interference.clm.	US-PGPUB; USPAT	OR	ON	2018/06/14 09:51

S285	104	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm.	US- PGPUB; USPAT	OR	ON	2018/10/04 12:20
S286	10	enhanced near2 uplink.clm. and schedul\$4 near2 information.clm. and interference.clm.	US- PGPUB; USPAT	OR	ON	2018/10/04 12:23
S287	154	enhanced near2 uplink.clm. and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm.	US- PGPUB; USPAT	OR	ON	2018/10/04 12:23
S317	2321	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) near2 process.clm.	US- PGPUB; USPAT	OR	ON	2019/10/30 14:02
S318	2321	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm.	US- PGPUB; USPAT	OR	ON	2019/10/30 14:03
S319	345	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$7).clm.	US- PGPUB; USPAT	OR	ON	2019/10/30 14:03
S320	345	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$8).clm.	US- PGPUB; USPAT	OR	ON	2019/10/30 14:05
S321	54	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$8).clm. with uplink.clm.	US- PGPUB; USPAT	OR	ON	2019/10/30 14:06
S322	54	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$8).clm. with uplink.clm.	US- PGPUB; USPAT	WITH	ON	2019/10/30 14:06
S330	346	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$7).clm.	US- PGPUB; USPAT	OR	ON	2019/11/01 13:41
S331	55	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$8).clm. with uplink.clm.	US- PGPUB; USPAT	OR	ON	2019/11/01 13:41
S332	8	((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)).clm. near2 process.clm. near2 (ID or identifier or identif\$8).clm. with uplink.clm. with retransmi\$6.clm.	US- PGPUB; USPAT	OR	ON	2019/11/01 13:42

11/ 1/ 2019 1:44:13 PM
C:\Users\broberts\Documents\EAST Workspaces\16545398.wsp

Bibliographic Data

Application No: 16/545,398

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged:
Examiner's Signature Initials

Title:

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/20/2019	370	2466	SIG-2-0674US09
RULE			

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CONTINUING DATA

This application is a CON of 16283407 02/22/2019

16283407 is a CON of 15699418 09/08/2017 PAT 10219196

15699418 is a CON of 14869313 09/29/2015 PAT 9763156

14869313 is a CON of 13908242 06/03/2013 PAT 9215636

13908242 is a CON of 13308950 12/01/2011 PAT 8457072

13308950 is a CON of 11434330 05/15/2006 PAT 8130720

11434330 is a CON of 10962720 10/12/2004 PAT 7046648

10962720 has PRO of 60578674 06/10/2004

10962720 has PRO of 60520692 11/17/2003

10962720 has PRO of 60519990 11/14/2003

10962720 has PRO of 60517656 11/05/2003

FOREIGN APPLICATIONS

IF REQUIRED, FOREIGN LICENSE GRANTED**

08/28/2019

STATE OR COUNTRY

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UNITED STATES

FILING FEE RECEIVED

\$1,720



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09

CONFIRMATION NO. 4478

3624
VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
PHILADELPHIA, PA 19103

PUBLICATION NOTICE



OC000000113125902

Title:SUPPORTING UPLINK TRANSMISSIONS

Publication No.US-2019-0373528-A1

Publication Date:12/05/2019

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 Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, 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 <https://portal.uspto.gov/pair/PublicPair>. 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 Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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

Application Number	16/545,398	Filing Date	2019-08-20	Docket Number (if applicable)	SIG-2-0674US09	Art Unit	2466
First Named Inventor	Zhang et al.			Examiner Name	Brian S. Roberts		

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

Signature of Registered U.S. Patent Practitioner			
Signature	Joseph P. Gushue/	Date (YYYY-MM-DD)	2020-02-05
Name	Joseph P. Gushue	Registration Number	59819

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.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the **PATENT APPLICATION** of:

Zhang et al.

Application No.: 16/545,398

Confirmation No.: 4478

Filed: August 20, 2019

For: SUPPORTING UPLINK
TRANSMISSIONS

Group: 2466

Examiner: Brian S. Roberts

Our File: SIG-2-0674US09

Date: February 5, 2019

RESPONSE PURSUANT TO 37 C.F.R. §1.114

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

Sir:

This Amendment is submitted further to the Notice of Allowance mailed November 8, 2019. A Request for Continued Examination is filed concurrently herewith.

Amendments to the Claims:

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

1. (Currently Amended) A wireless transmit/receive unit[[,]] (WTRU)[[,]] comprising:
 - at least one transceiver; and
 - a processor;
 - the processor causing the at least one transceiver to:
 - transmit a data block to a base station using a hybrid automatic repeat request (H-ARQ) process; and
 - receive uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process and an indication of one or more physical channel resources;
 - the processor being configured to determine whether to retransmit the data block based on the H-ARQ process identification when the transmission of the data block failed; and
 - in response to a determination to retransmit the data block, the processor being configured to cause the at least one transceiver to retransmit the data block using the indicated one or more physical channel resources.

2. (Currently Amended) The WTRU of claim 1 wherein the reception of the uplink scheduling information indicates retransmission of a negatively acknowledged (NACK'ed) data block.

3. Canceled.

4. (Original) The WTRU of claim 1 wherein the uplink scheduling information is received from a primary cell and the WTRU transmits to the primary cell and at least one secondary cell.

5. (Currently Amended) The WTRU of claim 1 further comprising the processor causing the at least one transceiver to receive a[[n]] positive/negative acknowledgement (ACK/NACK) signal from the base station.

6. (Original) The WTRU of claim 1 wherein the scheduling information indicates a modulation and coding scheme.

7. (Currently Amended) A method comprising:

transmitting, by a wireless transmit/receive unit (WTRU), a data block to a base station using a hybrid automatic repeat request (H-ARQ) process;

receiving, by the WTRU, uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process and an indication of one or more physical channel resources; [[and]]

determining, by the WTRU, whether to retransmit the data block based on the H-ARQ process identification when transmission of the data block failed; and
in response to a determination to retransmit the data block, retransmitting the data block using the indicated one or more physical channel resources.

8. (Currently Amended) The method of claim 7 wherein the reception of the uplinks scheduling information indicates retransmission of a negatively acknowledged (NACK'ed) data block.

9. Canceled.

10. (Original) The method of claim 7 wherein the uplink scheduling information is received from a primary cell and the WTRU transmits to the primary cell and at least one secondary cell.

11. (Currently Amended) The method of claim 7 further comprising receiving, by the WTRU, a[[n]] positive/negative acknowledgement (ACK/NACK) signal from the base station.

12. (Original) The method of claim 7 wherein the scheduling information indicates a modulation and coding scheme.

13. (New) The WTRU of claim 1 wherein the transmitted data block is modulated and encoded using a first modulation and coding scheme (MCS) and the scheduling information indicates a second MCS that is different than the first MCS.

14. (New) The WTRU of claim 13 wherein, in response to the determination to retransmit the data block, the processor is configured to cause the at least one transceiver to retransmit the data block using the second MCS.

15. (New) The method of claim 7 wherein the transmitted data block is modulated and encoded using a first modulation and coding scheme (MCS) and the scheduling information indicates a second MCS that is different than the first MCS.

16. (New) The WTRU of claim 15 wherein, in response to the determination to retransmit the data block, the retransmitting includes retransmitting the data block using the second MCS.

REMARKS

After the foregoing Amendment, claims 1-2, 4-8, and 10-16 are currently pending in this application. Claims 1, 2, 5, 7, 8 and 11 are amended. New claims 13-16 are added.

Conclusion

Applicant submits that no new matter has been introduced into the application by this Amendment, and respectfully requests that this Amendment be entered and that the application continues to grant.

If the Examiner believes that any additional minor formal matters need to be addressed, the Examiner is invited to contact the undersigned by telephone at the Examiner's convenience.

Respectfully submitted,

Signal Trust for Wireless Innovation

By /Joseph P. Gushue/
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Registration No. 59,819

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Facsimile: (215) 568-6499

JPG/pf
Enclosure

Electronic Patent Application Fee Transmittal				
Application Number:		16545398		
Filing Date:		20-Aug-2019		
Title of Invention:		SUPPORTING UPLINK TRANSMISSIONS		
First Named Inventor/Applicant Name:		Guodong Zhang		
Filer:		Joseph P. Gushue/Margaret Ferello		
Attorney Docket Number:		SIG-2-0674US09		
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:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
RCE- 1ST REQUEST	1801	1	1300	1300
Total in USD (\$)				1300

Electronic Acknowledgement Receipt

EFS ID:	38497876
Application Number:	16545398
International Application Number:	
Confirmation Number:	4478
Title of Invention:	SUPPORTING UPLINK TRANSMISSIONS
First Named Inventor/Applicant Name:	Guodong Zhang
Customer Number:	3624
Filer:	Joseph P. Gushue/Margaret Ferello
Filer Authorized By:	Joseph P. Gushue
Attorney Docket Number:	SIG-2-0674US09
Receipt Date:	05-FEB-2020
Filing Date:	20-AUG-2019
Time Stamp:	14:08:35
Application Type:	Utility under 35 USC 111(a)

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Payment Type	CARD
Payment was successfully received in RAM	\$ 1300
RAM confirmation Number	E202025E09135107
Deposit Account	220493
Authorized User	Margaret Ferello

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:
37 CFR 1.17 (Patent application and reexamination processing fees)

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)	SIG_2_0674US09_RCE.PDF	1350129	no	3
			60dde3edd085df3d5b348e7bd153afebdf4b6e15		
Warnings:					
Information:					
2		SIG_2_0674US09_Amendment_RCE.PDF	74850	yes	7
			24eead0ea29aa86e43e2e476501920536a23d5e0		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment Submitted/Entered with Filing of CPA/RCE		1	1	
	Claims		2	6	
	Applicant Arguments/Remarks Made in an Amendment		7	7	
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30240	no	2
			f38d67fafd5de811da5483685e4791fb9b7e0922		
Warnings:					
Information:					
Total Files Size (in bytes):			1455219		

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.

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.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/545,398	Filing Date 08/20/2019	☐ To be Mailed
---	--	---------------------------	---------------------------------------

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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), (l), 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 \$ 100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$ 460 =	
☐ 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

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	02/05/2020		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 14	Minus	** 20	= 0	x \$ 100 = 0
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$ 460 = 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			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$ 0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$ 0 =
	☐ 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.						LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/NICOLE L NICHOLSON/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".						
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. 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, 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.



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 759 02/26/2020
VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
PHILADELPHIA, PA 19103

EXAMINER

ROBERTS, BRIAN S

ART UNIT

PAPER NUMBER

2466

DATE MAILED: 02/26/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478

TITLE OF INVENTION: SUPPORTING UPLINK TRANSMISSIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	05/26/2020

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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 02/26/2020
VOLPE AND KOENIG, P.C.
30 SOUTH 17TH STREET, 18th Floor
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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478

TITLE OF INVENTION: SUPPORTING UPLINK TRANSMISSIONS

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1000	\$0.00	\$0.00	\$1000	05/26/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
ROBERTS, BRIAN S	2466	370-331000

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 03-09 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

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

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

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

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

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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.
16/545,398	08/20/2019	Guodong Zhang	SIG-2-0674US09	4478
3624 7590 02/26/2020 VOLPE AND KOENIG, P.C. 30 SOUTH 17TH STREET, 18th Floor PHILADELPHIA, PA 19103				
EXAMINER ROBERTS, BRIAN S				
ART UNIT 2466		PAPER NUMBER		
DATE MAILED: 02/26/2020				

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 30 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. 16/545,398	Applicant(s) Zhang et al.	
	Examiner BRIAN S ROBERTS	Art Unit 2466	AIA (FITF) 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 the RCE filed on 02/05/2020.
☐ 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 1-2,4-8 and 10-16. 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 _____.
--	--

/BRIAN S ROBERTS/
Primary Examiner, Art Unit 2466

Examiner's Statement of Reasons for Allowance

Notice of Pre-AIA or AIA Status

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

Claims 1-2, 4-8, and 10-16 are allowed.

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

The primary reason independent claim 1, and similarly independent claim 7, is allowable is because the closest prior art of record, US 667853 by Ghosh et al. and US 2003/0123470 by Kim et al., fails to teach or fairly suggest either alone or in combination with the prior art of record a wireless transmit/receive unit that includes a processor causing the at least one transceiver to: transmit a data block to a base station using a hybrid automatic repeat request (H-ARQ) process; and receive uplink scheduling information from the base station, wherein the uplink scheduling information includes a H-ARQ process identification of the H-ARQ process and an indication of one or more physical channel resources; the processor being configured to determine whether to retransmit the data block based on the H-ARQ process identification when the transmission of the data block failed; and in response to a determination to retransmit the data block, the processor being configured to cause the at least one transceiver to retransmit the data block using the indicated one or more physical channel resources.

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 BRIAN S ROBERTS whose telephone number is (571)272-3095. The examiner can normally be reached on M to F, 9am to 5pm.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Faruk Hamza can be reached on (571) 272-7969. 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

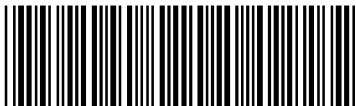
Application/Control Number: 16/545,398
Art Unit: 2466

Page 4

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BRIAN S. ROBERTS
Primary Examiner
Art Unit 2466

/BRIAN S ROBERTS/
Primary Examiner, Art Unit 2466

Search Notes 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

CPC - Searched*		
Symbol	Date	Examiner

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
PALM inventor search	02/11/2020	BSR
Search focused on: H04W36/18,00,16,0069,005,02,026,0011,30 H04L1/1887,1812,1893 H04W88/08,02 H04W36/30 H04B7/022	02/19/2020	BSR
EAST text search: see search history printout	02/19/2020	BSR
IEEE Xplore search "HARQ process identification"	02/19/2020	BSR

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
Interference search	See search history printout	02/19/2020	BSR

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Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

CPC						
Symbol					Type	Version
H04W	/	36	/	18	F	2013-01-01
H04L	/	1	/	1887	I	2013-01-01
H04L	/	1	/	1893	I	2013-01-01
H04L	/	1	/	1812	I	2013-01-01
H04W	/	74	/	004	I	2013-01-01
H04W	/	74	/	04	I	2013-01-01
H04B	/	7	/	022	A	2013-01-01
H04W	/	36	/	30	A	2013-01-01
H04W	/	88	/	08	A	2013-01-01

CPC Combination Sets							
Symbol				Type	Set	Ranking	Version
	/		/				

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 14	
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466 (Primary Examiner) _____ (Date) _____		19 February 2020 O.G. Print Claim(s) 1	O.G. Print Figure 3

Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04W36/18	/	36	/ 18
NON-CLAIMED			
/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 14	
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466 (Primary Examiner) _____ (Date) _____		19 February 2020 O.G. Print Claim(s) 1	O.G. Print Figure 3

Issue Classification 	Application/Control No. 16/545,398	Applicant(s)/Patent Under Reexamination Zhang et al.
	Examiner BRIAN S ROBERTS	Art Unit 2466

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47																
CLAIMS																
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final
1	1	10	10													
2	2	11	11													
	3	12	12													
3	4	6	13													
4	5	7	14													
5	6	13	15													
8	7	14	16													
9	8															
	9															

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 14	
/BRIAN S ROBERTS/ Primary Examiner, Art Unit 2466 (Primary Examiner) _____ (Date) 19 February 2020		O.G. Print Claim(s) 1	O.G. Print Figure 3

Bibliographic Data

Application No: 16/545,398

Foreign Priority claimed: ☐ Yes ☒ No

35 USC 119 (a-d) conditions met: ☐ Yes ☒ No ☐ Met After Allowance

Verified and Acknowledged:
Examiner's Signature Initials

Title:

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
08/20/2019	370	2466	SIG-2-0674US09
RULE			

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CONTINUING DATA

This application is a CON of 16283407 02/22/2019

16283407 is a CON of 15699418 09/08/2017 PAT 10219196

15699418 is a CON of 14869313 09/29/2015 PAT 9763156

14869313 is a CON of 13908242 06/03/2013 PAT 9215636

13908242 is a CON of 13308950 12/01/2011 PAT 8457072

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11434330 is a CON of 10962720 10/12/2004 PAT 7046648

10962720 has PRO of 60578674 06/10/2004

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FOREIGN APPLICATIONS

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	8991	(enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:21
S2	589	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:22
S3	637	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:23
S4	637	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:23
S5	459	H04L1/1887.cpc. and (enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 15:58
S6	459	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:04
S7	350	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:21
S8	6	"20030002470".pn.	US-PGPUB;	OR	ON	2015/02/19

		"20030031119".pn.	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			16:30
S9	71	"5794149".pn. "5946320".pn. "6434396".pn. "6643813".pn. "6678523".pn. "6907245".pn. "6915465".pn. "6977888".pn. "7046648".pn. "7054633".pn. "7103729".pn. "7124350".pn. "7158504".pn. "7185256".pn. "7269420".pn. "7283508".pn. "7315741".pn. "7317700".pn. "7403513".pn. "8023463".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:47
S10	70	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:53
S11	16	"20020093937".pn. "20030081692".pn. "20030202500".pn. "20060045010".pn. "20060105796".pn. "20070079207".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:54
S12	3	"20030003943".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 16:55
S13	66	"6678249".pn. "6778830".pn. "6892071".pn. "7013143".pn. "7346035".pn. "7414989".pn. "20020095635".pn. "20020191544".pn. "20030007480".pn. "20030043786".pn. "20030054824".pn. "20030081692".pn. "20030161284".pn. "20030210668".pn. "20040004954".pn. "20040072567".pn. "20040085934".pn. "20040120306".pn. "20040160925".pn. "20040202129".pn. "20040203991".pn. "20040219917".pn. "20040219919".pn. "20040219920".pn. "20040228313".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 17:13
S14	15	"20050041694".pn. "20050047354".pn. "20050048920".pn.	US-PGPUB; USPAT; USOCR;	OR	ON	2015/02/19 17:19

		"20050083888".pn. "20070047501".pn.	FPRS; EPO; JPO; DERWENT; IBM_TDB			
S15	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 20:33
S16	314	H04L1/12.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/19 20:34
S17	637	((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))and ((HARQ or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 10:58
S18	77	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 12:38
S19	884	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 12:52
S20	107	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:11
S21	178	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:27
S22	201	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 14:44
S23	49	H04L1/189.cpc. and ((enhanc\$3 near2	US-PGPUB;	OR	ON	2015/02/20

		uplink) or ("e-dch") or ("EU-DCH"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			15:01
S24	105	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:16
S25	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:30
S26	101	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 15:34
S27	154	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:03
S28	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:20
S29	71	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:37
S30	10	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 16:44
S31	350	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/02/20 16:45

			IBM_TDB			
S32	10	"8457072".pn. "8130720".pn. "7046648".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:12
S33	2	"20040219917".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:13
S34	2273255	"73"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:14
S35	2	"7346035".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:14
S36	6	"8130720".pn. "8457072".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:32
S37	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:44
S38	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:46
S39	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:46
S40	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2015/02/20 17:47

			EPO; JPO; DERWENT; IBM_TDB			
S41	3	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 17:48
S42	261	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/02/20 18:03
S46	0	"6754496".pn. and "7206598".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:19
S48	9	"6754496".pn. "7206598".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:27
S49	9371	(enhanc\$3 near2 uplink or ("e-dch"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:37
S50	614	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S51	665	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S52	496	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 15:38
S53	362	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2015/06/22 16:11

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S54	73	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 16:52
S55	305	H04L1/12.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 17:09
S56	909	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 17:53
S57	909	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 19:40
S58	110	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 20:39
S59	188	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 20:44
S60	111	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:05
S61	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:13

S62	104	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:13
S63	161	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:23
S64	72	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:36
S65	10	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:44
S66	362	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 21:53
S67	20	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:27
S68	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:28
S69	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:28
S70	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2015/06/22 22:28

			DERWENT; IBM_TDB			
S71	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:29
S72	289	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/22 22:30
S73	614	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/23 11:55
S74	1148	((enhanc\$3 near2 uplink or ("e-dch")) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/06/23 11:55
S78	936	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 14:54
S79	380	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 17:26
S80	680	((enhanc\$3 near2 uplink) or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3)) and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 18:05
S81	47	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 19:49
S82	114	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR;	OR	ON	2015/08/14 20:03

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S83	195	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:12
S84	206	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:28
S85	51	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:47
S86	115	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 20:57
S87	103	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:08
S88	164	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:23
S89	307	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/14 21:39
S90	629	((enhanc\$3 near2 uplink or ("e-dch"))) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 10:22
S91	5	"20120155304".pn.	US-PGPUB;	OR	ON	2015/08/17

		"20120039271".pn.	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			13:30
S92	2	"20120322492".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 13:55
S93	2	"20140254516".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:01
S94	0	"20090247206.pn."	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S95	0	"20090247206.pn."	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S96	2	"20090247206".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 14:11
S97	5	"6507567".pn. "20030131124".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/08/17 15:39
S101	639	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/05 19:26
S102	970	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2015/10/05 20:59

			IBM_TDB			
S103	311	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/06 07:31
S104	393	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/06 08:26
S105	527	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:03
S106	79	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:41
S107	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:53
S108	170	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 19:54
S109	30	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:08
S110	76	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:15
S111	11	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2015/10/20 20:24

			EPO; JPO; DERWENT; IBM_TDB			
S112	401	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 20:26
S113	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:03
S114	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:12
S115	7	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:15
S116	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:17
S117	4	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:22
S118	0	H04W88/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:26
S119	12891	H04W36/18.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/20 21:39
S120	401	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2015/10/21 11:28

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S121	1005	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/21 12:05
S122	400	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 18:44
S123	527	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 19:04
S124	79	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:35
S125	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:43
S126	50	H04L1/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:44
S127	1005	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 20:50
S128	119	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 21:49

S129	7623	H04L1/1819.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/27 21:56
S130	242	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 12:56
S131	209	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 13:15
S132	54	H04L1/189.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 13:44
S133	122	H04L1/1896.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 15:41
S134	2	H04L1/22.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 17:04
S135	4126	H04L1/22.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/28 19:16
S136	107	H04B7/022.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 15:06
S137	169	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2015/10/29 15:35

			DERWENT; IBM_TDB			
S138	31	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:20
S139	76	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:45
S140	11	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:49
S141	400	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 16:55
S142	19	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:14
S143	4	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:15
S144	10	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:15
S145	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:16
S146	4	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR;	OR	ON	2015/10/29 17:16

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S147	329	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:16
S148	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 17:27
S149	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/29 19:44
S150	3580	(enhanc\$3 near2 uplink or ("e-dch")) and ((HARQ) or (hybrid near2 automatic near2 repeat\$3 near2 request\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2015/10/31 18:36
S154	689	(enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:24
S155	17	"7046648".pn. "8130720".pn. "8457072".pn. "9215636".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:36
S156	8	"7283509".pn. "7366538".pn. "20010020285".pn. "20020115467".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 13:56
S157	1176	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 14:18
S158	504	H04W88/08.cpc. and ((enhanc\$3	US-PGPUB;	OR	ON	2016/05/26

		near2 uplink) or ("e-dch") or ("EU-DCH"))	USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			14:23
S159	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:06
S160	570	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:07
S161	93	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:15
S162	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:16
S163	198	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:16
S164	36	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:18
S165	79	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:20
S166	13	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT;	OR	ON	2016/05/26 15:22

			IBM_TDB			
S167	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:22
S168	21	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S169	7	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S170	10	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S171	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:25
S172	6	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:26
S173	436	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:26
S174	1176	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:27
S175	125	H04L1/1816.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS;	OR	ON	2016/05/26 15:31

			EPO; JPO; DERWENT; IBM_TDB			
S176	256	H04L1/1819.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:31
S177	214	H04L1/1867.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:44
S178	1553	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:47
S179	1645	((enhanc\$3 near2 uplink or ("e-dch")) and (HARQ or (hybrid near2 automatic near2 repeat near2 request\$4)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/05/26 15:48
S180	702	((enhanc\$3 near2 uplink or ("e-dch")) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 15:41
S181	1227	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 16:05
S182	516	H04W88/08.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 17:12
S183	442	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU- DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 18:28
S184	578	H04L1/1887.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-	US-PGPUB; USPAT;	OR	ON	2016/07/05 19:16

		DCH"))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S185	1227	H04L1/1812.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/05 20:28
S186	94	H04L1/1893.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 09:59
S187	0	H04L1/12.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:07
S188	203	H04W36/30.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:07
S189	35	H04W36/00.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:11
S190	80	H04W36/02.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:13
S191	14	H04W36/16.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:17
S192	442	H04W36/18.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:20

S193	22	H04W36/24.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:35
S194	9	H04W36/26.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:38
S195	11	H04W36/28.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:38
S196	4	H04W36/34.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:41
S197	6	H04W36/38.cpc. and ((enhanc\$3 near2 uplink) or ("e-dch") or ("EU-DCH"))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:45
S198	1674	((enhanc\$3 near2 uplink or ("e-dch"))) and (HARQ or (hybrid near2 automatic near2 repeat near2 request\$4)) and ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 12:45
S199	702	((enhanc\$3 near2 uplink or ("e-dch"))) and HARQ and soft near2 ((handover) or (handoff) or (hand\$3 near over) or (hand\$3 near2 off))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/06 13:18
S203	10	"716167".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2016/07/07 12:22
S204	2	"7169167".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2016/07/07 12:23