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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/22/2022	11284433	1398-1319	4491

66547 7590 03/02/2022
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 3 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

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

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

Jaehyuk JANG, Gyeonggi-do, KOREA, REPUBLIC OF;
Anil AGIWAL, Gyeonggi-do, KOREA, REPUBLIC OF;

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

Samsung Electronics Co., Ltd., Gyeonggi-do, KOREA, REPUBLIC OF;

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IR 103 (Rev. 10/09)



United States Patent and Trademark Office

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Document Code:WFEE

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Sale Accounting Date:02/10/2022

Sale Item Reference Number	Effective Date
16832093	02/09/2022

Document Number	Fee Code	Fee Code Description	Amount Paid	Payment Method
I202220937152295	1501	UTILITY APPL ISSUE FEE	\$1,200.00	Salea

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

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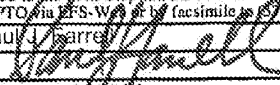
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Paul J Farrell (Typed or printed name)
 (Signature)
February 9, 2022 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jashyuk JANG	1398-1319	4491

TITLE OF INVENTION: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$1200.00	\$0	05/03/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, BRIAN D	2472	370-329000

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/AIA/122 or PTO/SB/122) attached.
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- (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.

The Farrell Law Firm, P.C.

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)

Samsung Electronics Co., Ltd

Republic of Korea

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)

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☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 50-4053

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 1.33 and 1.33, See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature

Date February 9, 2022

Typed or printed name Paul J. Farrell

Registration No. 33,494

Electronic Acknowledgement Receipt	
EFS ID:	44956539
Application Number:	16832093
International Application Number:	
Confirmation Number:	4491
Title of Invention:	METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND
First Named Inventor/Applicant Name:	Jaehyuk JANG
Customer Number:	66547
Filer:	Paul J. Farrell/Deanna Marman
Filer Authorized By:	Paul J. Farrell
Attorney Docket Number:	1398-1319
Receipt Date:	09-FEB-2022
Filing Date:	27-MAR-2020
Time Stamp:	15:39:56
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	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	497996	no	1
			042bc8cc653ebe7a63392ea95353229ed219cc3d		

Warnings:

Information:	
Total Files Size (in bytes):	497996
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.	



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PART B - FEE(S) TRANSMITTAL

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THE FARRELL LAW FIRM, P.C.
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Certificate of Mailing or Transmission

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Paul J. Farrell	(Typed or printed name)
	(Signature)
February 9, 2022	(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jashyuk TANG	1398-1319	4491

TITLE OF INVENTION: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PRIV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$1200.00	\$0	05/03/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, BRIAN D	2472	370-329000

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(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.

The Farrell Law Firm, P.C.

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Samsung Electronics Co., Ltd

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Republic of Korea

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

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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 February 9, 2022

Typed or printed name Paul J. Farrell

Registration No. 33,494



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NOTICE OF ALLOWANCE AND FEE(S) DUE

66547 7590 02/03/2022
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

EXAMINER

NGUYEN, BRIAN D

ART UNIT

PAPER NUMBER

2472

DATE MAILED: 02/03/2022

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jaehyuk JANG	1398-1319	4491

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nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$1200.00	\$0	05/03/2022

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. 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.

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Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____



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66547 7590 02/03/2022 THE FARRELL LAW FIRM, P.C. Paul J Farrell 290 Broadhollow Road Suite 210E Melville, NY 11747			EXAMINER NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2472	
DATE MAILED: 02/03/2022				

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. 16/832,093	Applicant(s) JANG et al.	
	Examiner BRIAN D NGUYEN	Art Unit 2472	AIA (FITF) Status Yes

-- 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 amendment and RCE filed 12/13/21.
☐ 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 1-16. 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)	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 D NGUYEN/ Primary Examiner, Art Unit 2472	
---	--

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

CPC						
Symbol					Type	Version
H04W	/	74	/	0808	F	2013-01-01
H04W	/	74	/	0833	I	2013-01-01
H04W	/	24	/	08	I	2013-01-01
H04W	/	72	/	0413	I	2013-01-01
H04W	/	72	/	0493	I	2013-01-01
H04W	/	16	/	14	I	2013-01-01

CPC Combination Sets					
Symbol	Type	Set	Ranking	Version	

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472	11 January 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8A

U.S. Patent and Trademark Office

Part of Paper No.: 20220111

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04W	/	74	/ 08
H04W	/	16	/ 14
H04W	/	24	/ 08
H04W	/	72	/ 04
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472	11 January 2022	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8A

U.S. Patent and Trademark Office

Part of Paper No.: 20220111

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

☐ 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
1	1	10	10												
2	2	11	11												
3	3	13	12												
5	4	14	13												
6	5	15	14												
7	6	16	15												
8	7	12	16												
4	8														
9	9														

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472 (Primary Examiner) _____ (Date) 11 January 2022		O.G. Print Claim(s) 1	O.G. Print Figure 8A

U.S. Patent and Trademark Office

Part of Paper No.: 20220111

Search Notes 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

CPC - Searched*		
Symbol	Date	Examiner
H04W 74/0833, 72/0493, 72/0413, 74/0808, 24/08, 16/14, 76/19	07/02/2021	bn

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
EAST and NPL	07/02/2021	bn
updated	10/23/2021	bn
updated	01/11/2022	bn

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
H04W	74/0808	10/23/2021	bn

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"16832093"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:39
S2	57,843	H04W74/0833.cpc. H04W72/0493.cpc. H04W72/0413.cpc. H04W74/0808.cpc. H04W24/08.cpc. H04W16/14.cpc. H04W76/19.cpc.	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S3	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S4	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S5	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S6	14,451,754	S3 S4 S5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S7	913	((("JANG") near3 ("Jaehyuk"))) OR (("AGIWAL") near3 ("Anil"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/07/01 19:43
S8	10,669	(listen\$3before\$4talk lbt)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:44
S9	4,601	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S10	5,459	(bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S11	685	S9 and S10	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S12	547	S11 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S13	1,394	switch\$4 near4 (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S14	1,532	switch\$4 with (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S15	1,394	S13 and S14	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S16	222	S12 and S15	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46

S17	1,588	(listen\$3before\$4talk lbt) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S18	105	S16 and S17	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S19	9,753	(random adj3 access adj3 channel prach rach) adj3 resource	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S20	71	S18 and S19	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S21	62	S20 and (counter timer)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S22	9,819	re\$3establish\$6 with rrc	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S23	47	S21 and S22	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S24	795	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 20:03
S25	105	S24 and S13	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S26	77	S25 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S27	35	S26 and rrc with re\$4establish\$7	US-PGPUB; USPAT	OR	ON	2021/07/01 20:24
S28	1	("20210160927").PN.	US-PGPUB; USPAT	OR	OFF	2021/07/02 10:13
S29	1	S28 and (count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/02 10:13
S30	80	(listen\$3before\$4talk lbt) with count\$4 with tim\$4 with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S31	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S32	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S33	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S34	14,451,754	S31 S32 S33	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S35	58	S30 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S36	5	RRC with re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06
S37	4	S36 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06

S38	8	rrc and re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S39	6	S38 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S40	8	RRC with re\$3establish\$4 with LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S41	4,029	RRC with re\$3establish\$4 with fail\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S42	599	S41 and LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S43	571	S42 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S44	1	("20200344819").PN.	US-PGPUB; USPAT	OR	OFF	2021/07/02 11:21
S45	1	S44 and count\$4 and tim\$4 and expir\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:22
S46	1	"16832093"	US-PGPUB; USPAT	OR	ON	2021/10/23 14:57
S47	14,068,786	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S48	5,708,479	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S49	5,455,868	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S50	14,604,130	S47 S48 S49	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S51	1,719	(listen\$3before\$4talk lbt).clm.	US-PGPUB; USPAT	OR	ON	2021/10/23 15:13
S52	25,078	((primary secondary serving) adj3 cell pcel scell).clm.	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14
S53	166	S51 and S52	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14
S54	145	S53 and S50	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14
S56	14,106,064	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2022/01/11 12:56
S57	5,752,108	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2022/01/11 12:56
S58	5,508,922	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2022/01/11 12:56
S59	14,702,090	S56 S57 S58	US-PGPUB; USPAT	OR	ON	2022/01/11 12:56

S60	125	((lbt listen adj3 before adj3 talk) and (bwp bandwidth adj3 part)).clm.	US-PGPUB; USPAT	OR	ON	2022/01/11 12:57
S61	95	S59 and S60	US-PGPUB; USPAT	OR	ON	2022/01/11 12:57

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S55	60,808	H04W74/0833.cpc. H04W72/0493.cpc. H04W72/0413.cpc. H04W74/0808.cpc. H04W24/08.cpc. H04W16/14.cpc. H04W76/19.cpc.	US- PGPUB; USPAT	OR	ON	2021/10/23 15:12

1/11/2022 1:01:42 PM

C:\Users\bnguyen2\Documents\EAST\Workspaces\16832093.wsp

Doc code: RCEX

Doc description: Request for Continued Examination (RCE)

PTO/SB/30EFS (02-18)

Approved for use through 11/30/2020. OMB 0851-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)							
Application Number	16/832,093	Filing Date	2020-03-27	Docket Number (if applicable)	1398-1319	Art Unit	2472
First Named Inventor	Jaehyuk JANG et al.			Examiner Name	NGUYEN, BRIAN D.		
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 <u>504053</u>							
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED							
☒ Patent Practitioner Signature ☐ Applicant Signature							

Doc code: RCEX

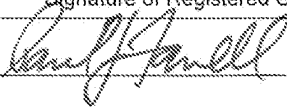
Doc description: Request for Continued Examination (RCE)

PTG/SB/30EFS (02-18)

Approved for use through 11/30/2020. OMB 0851-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Signature of Registered U.S. Patent Practitioner			
Signature		Date (YYYY-MM-DD)	2021-12-13
Name	Paul J. Farrell	Registration Number	33494

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.

Electronic Patent Application Fee Transmittal				
Application Number:		16832093		
Filing Date:		27-Mar-2020		
Title of Invention:		METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND		
First Named Inventor/Applicant Name:		Jaehyuk JANG		
Filer:		Paul J. Farrell/Deanna Marman		
Attorney Docket Number:		1398-1319		
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
PETITION FEE- 37 CFR 1.17(H) (GROUP III)	1464	1	140	140
RCE- 1ST REQUEST	1801	1	1360	1360
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 (\$)				1500



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Decision Date : December 13, 2021

In re Application of :

Jaehyuk JANG

DECISION ON PETITION

UNDER CFR 1.313(c)(2)

Application No : 16832093

Filed : 27-Mar-2020

Attorney Docket No : 1398-1319

This is an electronic decision on the petition under 37 CFR 1.313(c)(2), filed December 13, 2021, to withdraw the above-identified application from issue after payment of the issue fee.

The petition is **GRANTED**.

The above-identified application is withdrawn from issue for consideration of a submission under 37 CFR 1.114 (request for continued examination). See 37 CFR 1.313(c)(2).

Petitioner is advised that the issue fee paid in this application cannot be refunded. If, however, this application is again allowed, petitioner may request that it be applied towards the issue fee required by the new Notice of Allowance.

Telephone inquiries concerning this decision should be directed to the Patent Electronic Business Center (EBC) at 866-217-9197.

This application file is being referred to Technology Center AU 2472 for processing of the request for continuing examination under 37 CFR 1.114.

Office of Petitions

Electronic Acknowledgement Receipt	
EFS ID:	44499075
Application Number:	16832093
International Application Number:	
Confirmation Number:	4491
Title of Invention:	METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND
First Named Inventor/Applicant Name:	Jaehyuk JANG
Customer Number:	66547
Filer:	Paul J. Farrell/Deanna Marman
Filer Authorized By:	Paul J. Farrell
Attorney Docket Number:	1398-1319
Receipt Date:	13-DEC-2021
Filing Date:	27-MAR-2020
Time Stamp:	14:27:26
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1500
RAM confirmation Number	E2021BCE27200387
Deposit Account	504053
Authorized User	Deanna Marman
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)					
37 CFR 1.20 (Post Issuance fees)					
37 CFR 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	ePetition Request Form	petition-request.pdf	39991	no	2
			af1558f2e1c02f949b9a901db66b4756229d9945		
Warnings:					
Information:					
2	Request for Continued Examination (RCE)	RCE.pdf	245080	no	2
			4e20a732a47951b6db5214ec56ed1c91e4d52403		
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
Information:					
3	Amendment Submitted/Entered with Filing of CPA/RCE	Submission.pdf	568253	no	7
			cd90f5217b7657e4c36a72744bf935294e8284e1		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	40433	no	2
			added23b8c1776b747bbee7f9e03f9437f01fc14aa		
Warnings:					
Information:					
Total Files Size (in bytes):			893757		

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.

Doc Code: PET.AUTO Document Description: Petition automatically granted by EFS-Web		PTO/SB/140 U.S. Patent and Trademark Office Department of Commerce
Electronic Petition Request	PETITION TO WITHDRAW AN APPLICATION FROM ISSUE AFTER PAYMENT OF THE ISSUE FEE UNDER 37 CFR 1.313(c)	
Application Number	16832093	
Filing Date	27-Mar-2020	
First Named Inventor	Jaehyuk JANG	
Art Unit	2472	
Examiner Name		
Attorney Docket Number	1398-1319	
Title	METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND	
An application may be withdrawn from issue for further action upon petition by the applicant. To request that the Office withdraw an application from issue, applicant must file a petition under this section including the fee set forth in § 1.17(h) and a showing of good and sufficient reasons why withdrawal of the application from issue is necessary. APPLICANT HEREBY PETITIONS TO WITHDRAW THIS APPLICATION FROM ISSUE UNDER 37 CFR 1.313(c). A grantable petition requires the following items: (1) Petition fee; and (2) One of the following reasons: (a) Unpatentability of one or more claims, which must be accompanied by an unequivocal statement that one or more claims are unpatentable, an amendment to such claim or claims, and an explanation as to how the amendment causes such claim or claims to be patentable; (b) Consideration of a request for continued examination in compliance with § 1.114 (for a utility or plant application only); or (c) Express abandonment of the application. Such express abandonment may be in favor of a continuing application, but not a CPA under 37 CFR 1.53(d).		
Petition Fee		
☐ Small Entity		
☐ Micro Entity		
☒ Regular Undiscounted		
Reason for withdrawal from issue		

☐ One or more claims are unpatentable ☒ Consideration of a request for continued examination (RCE) (List of Required Documents and Fees) ☐ Applicant hereby expressly abandons the instant application (any attorney/agent signing for this reason must have power of attorney pursuant to 37 CFR 1.32(b)).	
RCE request, submission, and fee. ☐ I certify, in accordance with 37 CFR 1.4(d)(4) that : The RCE request ,submission, and fee have already been filed in the above-identified application on ☒ Are attached.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ☒ An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application. ☐ An attorney or agent registered to practice before the Patent and Trademark Office, acting in a representative capacity. ☐ A sole inventor ☐ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ☐ A joint inventor; all of whom are signing this e-petition	
Signature	/Paul J Farrell/
Name	Paul J Farrell
Registration Number	33494

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Jaehyuk JANG et al. Examiner: Brian D. NGUYEN
Serial No.: 16/832,093 Art Unit: 2472
Filed: March 27, 2020 Date: December 13, 2021
For: **METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN
WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND**

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

AMENDMENT TRANSMITTAL FORM

Sir:

Transmitted herewith is an amendment in the above-identified application.

- ☐ Small entity status of this application under 37 C.F.R. §§1.9 and 1.27 has been established by a verified statement previously submitted.
- ☐ A verified statement to establish small entity under 37 C.F.R. §§1.9 and 1.27 is enclosed.
- ☒ No additional fee is required.

For	Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate (Small Entity)	Addit. Fee	Rate	Addit. Fee
TOTAL CLAIMS*	16	20	0	x50 =	\$0	x100 =	\$0
INDEPENDENT CLAIMS	2	3	0	x240 =	\$0	X480 =	\$0
☐ First Presentation of Multiple Dep. Claim				410		820	\$0

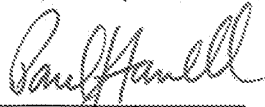
* If the entry in Col. 1 is less than entry in Col. 2, write "0" in Col. 3.

** If the "Highest No. Previously Paid for" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The Highest No. Previously Paid For" (Total or indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

- ☐ Please charge Deposit Account No. 50-4053 in the amount of \$____. Two (2) copies of this sheet are enclosed.
- ☐ A check in the amount of \$____ is enclosed.
- ☒ Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. §§1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-4053. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-4053 therefor.

Respectfully submitted,



Paul J. Farrell
Reg No. 33,494
Attorney for Applicant(s)

THE FARRELL LAW FIRM, PC
290 Broadhollow Road, Suite 210 E
Melville, New York 11747
(516) 228-3565

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORS: Jaehyuk JANG et al. **ART UNIT:** 2472
APPLICATION NO.: 16/832,093 **EXAMINER:** Brian D. NGUYEN
FILING DATE: March 27, 2020 **DATED:** December 13, 2021
FOR: **METHOD AND DEVICE FOR DETECTING UPLINK
LBT FAILURE IN WIRELESS COMMUNICATION
SYSTEM USING UNLICENSED BAND**

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

SUBMISSION

In response to the Notice of Allowance of November 4, 2021, and further to the Petition to Withdraw an Application from Issue After Payment of the Issue Fee and the Request for Continuation Examination (RCE) filed herewith, please consider the following amendments and remarks.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method performed by a terminal in a wireless communication system, the method comprising:

receiving configuration system information including listen before talk (LBT)-related information;

performing an LBT for a first bandwidth part (BWP) of a serving cell;

in case that a failure for the LBT is detected based on the configuration system information as a result of performing the LBT, triggering an LBT failure for the first BWP;

identifying whether the serving cell is a primary cell or a secondary cell; and

in case that the serving cell is the primary cell, switching from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered.

2. (Previously Presented) The method of claim 1, further comprising, in case that the serving cell is the secondary cell, transmitting a control message associated with the LBT failure.

3. (Previously Presented) The method of claim 1, further comprising performing a radio resource control (RRC) re-establishment procedure in case that the LBT failure is triggered for all BWPs of the serving cell.

4. (Previously Presented) The method of claim 1, wherein the LBT-related information comprises information on a timer for a detection of the LBT failure and information on a maximum counter value for the detection of the LBT failure.

5. (Previously Presented) The method of claim 4, wherein triggering the LBT failure comprises:

starting the timer and increasing a counter value, in case that an uplink signal transmission based on the LBT is not performed; and

triggering the LBT failure for the first BWP, in case that the counter value is greater than or equal to the maximum counter value.

6. (Previously Presented) The method of claim 5, further comprising setting the counter value to 0, in case that the timer expires.

7. (Previously Presented) The method of claim 1, further comprising performing a random access procedure for the second BWP.

8. (Previously Presented) The method of claim 3, further comprising indicating, by a medium access control (MAC) layer of the terminal, the LBT failure to an upper layer.

9. (Currently Amended) A terminal in a wireless communication system, the terminal comprising:

a transceiver; and

a controller configured to:

receive, via the transceiver, configuration system information including listen before talk (LBT)-related information,

perform an LBT for a first bandwidth part (BWP) of a serving cell,

in case that a failure for the LBT is detected based on the configuration system information as a result of performing the LBT, trigger an LBT failure for the first BWP,

identify whether the serving cell is a primary cell or a secondary cell, and

in case that the serving cell is the primary cell, switch from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered.

10. (Previously Presented) The terminal of claim 9, wherein the controller is further configured to, in case that the serving cell is the secondary cell, transmit, via the transceiver, a control message associated with the LBT failure.

11. (Previously Presented) The terminal of claim 9, wherein the controller is further configured to perform a radio resource control (RRC) re-establishment procedure, in case that the LBT failure is triggered for all BWPs of the serving cell.

12. (Previously Presented) The terminal of claim 9, wherein the LBT-related information comprises information on a timer for a detection of the LBT failure and information on a maximum counter value for the detection of the LBT failure.

13. (Previously Presented) The terminal of claim 12, wherein, to trigger the LBT failure, the controller is further configured to:

start the timer and increase a counter value, in case that an uplink signal transmission based on the LBT is not performed, and

trigger the LBT failure for the first BWP, in case that the counter value is greater than or equal to the maximum counter value.

14. (Previously Presented) The terminal of claim 13, wherein the controller is further configured to set the counter value to 0, in case that the timer expires.

15. (Previously Presented) The terminal of claim 9, wherein the controller is further configured to perform a random access procedure for the second BWP.

16. (Previously Presented) The terminal of claim 11, wherein the controller further is configured to indicate, by a medium access control (MAC) layer of the terminal, the LBT failure to an upper layer.

REMARKS

Claims 1-16 are pending in the application, with Claims 1 and 9 being the independent claims. As indicated above, Claims 1 and 9 are amended. No new matter is presented.

Applicant gratefully acknowledges the Examiner's allowance of Claims 1-16.

As indicated above, Claims 1 and 9 are amended to change "system information" to "configuration information." It is respectfully submitted that this amendment does not affect the allowable scope of Claims 1 and 9.

Accordingly, all of the pending claims of the present application are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant's attorney at the number given below.

THE FARRELL LAW FIRM, P.C.
290 Broadhollow Road, STE 210 E
Melville, N.Y. 11747
Tel: (516) 228-3565

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant(s)



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	12/14/2021	11202316	1398-1319	4491

66547 7590 11/23/2021
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

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

The Patent Term Adjustment is 42 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

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

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

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

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

Samsung Electronics Co., Ltd., Gyeonggi-do, KOREA, REPUBLIC OF;

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

IR 103 (Rev. 10/09)

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)

66547 7590 11/04/2021
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

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.

Paul J Farrell (Typed or printed name)
November 9, 2021 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jachyuk JANG	1398-1319	4491

TITLE OF INVENTION: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	02/04/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, BRIAN D	2472	370-329000

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, The Farrell Law Firm, P.C.

(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.

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

Samsung Electronics Co., Ltd

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Republic of Korea

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. 50-4053

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 1.44 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____
Typed or printed name Paul J. Farrell

Date November 9, 2021
Registration No. 33,494

Electronic Patent Application Fee Transmittal				
Application Number:		16832093		
Filing Date:		27-Mar-2020		
Title of Invention:		METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND		
First Named Inventor/Applicant Name:		Jaehyuk JANG		
Filer:		Paul J. Farrell/Deanna Marman		
Attorney Docket Number:		1398-1319		
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:				
UTILITY APPL ISSUE FEE	1501	1	1200	1200

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1200

Electronic Acknowledgement Receipt	
EFS ID:	44239989
Application Number:	16832093
International Application Number:	
Confirmation Number:	4491
Title of Invention:	METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND
First Named Inventor/Applicant Name:	Jaehyuk JANG
Customer Number:	66547
Filer:	Paul J. Farrell/Deanna Marman
Filer Authorized By:	Paul J. Farrell
Attorney Docket Number:	1398-1319
Receipt Date:	09-NOV-2021
Filing Date:	27-MAR-2020
Time Stamp:	15:10:38
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	\$ 1200
RAM confirmation Number	E2021A9F10560571
Deposit Account	504053
Authorized User	Deanna Marman
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.21 (Miscellaneous fees and charges) 37 CFR 1.20 (Post Issuance fees)	

37 CFR 1.19 (Document supply fees) 37 CFR 1.17 (Patent application and reexamination processing fees) 37 CFR 1.16 (National application filing, search, and examination fees)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Issue_Fee_Transmittal.pdf	109727	no	1
			4de7a384ecd8098d2dd93588fb62129dd7edcd9d		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	38152	no	2
			354f4cecfaf9f077998372a2a7f4f118e94b5d44		
Warnings:					
Information:					
Total Files Size (in bytes):			147879		
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.					



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NOTICE OF ALLOWANCE AND FEE(S) DUE

66547 7590 11/04/2021
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

EXAMINER

NGUYEN, BRIAN D

ART UNIT

PAPER NUMBER

2472

DATE MAILED: 11/04/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jaehyuk JANG	1398-1319	4491

TITLE OF INVENTION: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	02/04/2022

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)

66547 7590 11/04/2021
THE FARRELL LAW FIRM, P.C.
Paul J Farrell
290 Broadhollow Road
Suite 210E
Melville, NY 11747

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.
16/832,093	03/27/2020	Jaehyuk JANG	1398-1319	4491

TITLE OF INVENTION: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	\$1200	\$0.00	\$0.00	\$1200	02/04/2022

EXAMINER	ART UNIT	CLASS-SUBCLASS
NGUYEN, BRIAN D	2472	370-329000

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, 1 _____
- (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 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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P.O. Box 1450
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jaehyuk JANG	1398-1319	4491
66547 7590 11/04/2021 THE FARRELL LAW FIRM, P.C. Paul J Farrell 290 Broadhollow Road Suite 210E Melville, NY 11747			EXAMINER NGUYEN, BRIAN D	
			ART UNIT	PAPER NUMBER
			2472	
DATE MAILED: 11/04/2021				

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. 16/832,093	Applicant(s) JANG et al.	
	Examiner BRIAN D NGUYEN	Art Unit 2472	AIA (FITF) Status Yes

-- 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 amendment filed 10/8/21.
☐ 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 1-16. 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)	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 D NGUYEN/ Primary Examiner, Art Unit 2472	
---	--

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

CPC						
Symbol					Type	Version
H04W	/	74	/	0808	F	2013-01-01
H04W	/	74	/	0833	I	2013-01-01
H04W	/	24	/	08	I	2013-01-01
H04W	/	72	/	0413	I	2013-01-01
H04W	/	72	/	0493	I	2013-01-01
H04W	/	16	/	14	I	2013-01-01

CPC Combination Sets						
Symbol			Type	Set	Ranking	Version
	/		/			

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472	23 October 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8A

U.S. Patent and Trademark Office

Part of Paper No.: 20211023

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

INTERNATIONAL CLASSIFICATION			
CLAIMED			
H04W	/	74	/ 08
H04W	/	16	/ 14
H04W	/	24	/ 08
H04W	/	72	/ 04
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

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

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472	23 October 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	8A

U.S. Patent and Trademark Office

Part of Paper No.: 20211023

Issue Classification 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

☐ 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
1	1	10	10												
2	2	11	11												
3	3	13	12												
5	4	14	13												
6	5	15	14												
7	6	16	15												
8	7	12	16												
4	8														
9	9														

NONE (Assistant Examiner) _____ (Date) _____		Total Claims Allowed: 16	
/BRIAN D NGUYEN/ Primary Examiner, Art Unit 2472 (Primary Examiner) _____ (Date) 23 October 2021		O.G. Print Claim(s) 1	O.G. Print Figure 8A

U.S. Patent and Trademark Office

Part of Paper No.: 20211023

Search Notes 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

CPC - Searched*		
Symbol	Date	Examiner
H04W 74/0833, 72/0493, 72/0413, 74/0808, 24/08, 16/14, 76/19	07/02/2021	bn

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
EAST and NPL	07/02/2021	bn
updated	10/23/2021	bn

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
H04W	74/0808	10/23/2021	bn

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"16832093"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:39
S2	57,843	H04W74/0833.cpc. H04W72/0493.cpc. H04W72/0413.cpc. H04W74/0808.cpc. H04W24/08.cpc. H04W16/14.cpc. H04W76/19.cpc.	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S3	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S4	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S5	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S6	14,451,754	S3 S4 S5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S7	913	((("JANG") near3 ("Jaehyuk"))) OR (("AGIWAL") near3 ("Anil"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/07/01 19:43
S8	10,669	(listen\$3before\$4talk lbt)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:44
S9	4,601	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S10	5,459	(bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S11	685	S9 and S10	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S12	547	S11 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S13	1,394	switch\$4 near4 (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S14	1,532	switch\$4 with (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S15	1,394	S13 and S14	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S16	222	S12 and S15	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46

S17	1,588	(listen\$3before\$4talk lbt) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S18	105	S16 and S17	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S19	9,753	(random adj3 access adj3 channel prach rach) adj3 resource	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S20	71	S18 and S19	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S21	62	S20 and (counter timer)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S22	9,819	re\$3establish\$6 with rrc	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S23	47	S21 and S22	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S24	795	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 20:03
S25	105	S24 and S13	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S26	77	S25 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S27	35	S26 and rrc with re\$4establish\$7	US-PGPUB; USPAT	OR	ON	2021/07/01 20:24
S28	1	("20210160927").PN.	US-PGPUB; USPAT	OR	OFF	2021/07/02 10:13
S29	1	S28 and (count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/02 10:13
S30	80	(listen\$3before\$4talk lbt) with count\$4 with tim\$4 with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S31	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S32	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S33	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S34	14,451,754	S31 S32 S33	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S35	58	S30 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S36	5	RRC with re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06
S37	4	S36 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06

S38	8	rrc and re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S39	6	S38 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S40	8	RRC with re\$3establish\$4 with LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S41	4,029	RRC with re\$3establish\$4 with fail\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S42	599	S41 and LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S43	571	S42 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S44	1	("20200344819").PN.	US-PGPUB; USPAT	OR	OFF	2021/07/02 11:21
S45	1	S44 and count\$4 and tim\$4 and expir\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:22
S46	1	"16832093"	US-PGPUB; USPAT	OR	ON	2021/10/23 14:57
S47	14,068,786	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S48	5,708,479	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S49	5,455,868	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S50	14,604,130	S47 S48 S49	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12
S51	1,719	(listen\$3before\$4talk lbt).clm.	US-PGPUB; USPAT	OR	ON	2021/10/23 15:13
S52	25,078	((primary secondary serving) adj3 cell pcel scell).clm.	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14
S53	166	S51 and S52	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14
S54	145	S53 and S50	US-PGPUB; USPAT	OR	ON	2021/10/23 15:14

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S55	60,808	H04W74/0833.cpc. H04W72/0493.cpc. H04W72/0413.cpc. H04W74/0808.cpc. H04W24/08.cpc. H04W16/14.cpc. H04W76/19.cpc.	US-PGPUB; USPAT	OR	ON	2021/10/23 15:12

10/23/2021 3:14:54 PM
C:\Users\bnguyen2\Documents\EAST\Workspaces\16832093.wsp

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875				Application or Docket Number 16/832,093		Filing Date 03/27/2020		☐ 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)				
AMENDMENT	10/08/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)		ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 16	Minus	** 20	= 0	x \$100 =		0	
	Independent (37 CFR 1.16(h))	* 2	Minus	*** 3	= 0	x \$480 =		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	RATE (\$)		ADDITIONAL FEE (\$)	
	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".						/JACQUELYN L WILLIAMS/			
*** 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.

Electronic Acknowledgement Receipt	
EFS ID:	43983665
Application Number:	16832093
International Application Number:	
Confirmation Number:	4491
Title of Invention:	METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS COMMUNICATION SYSTEM USING UNLICENSED BAND
First Named Inventor/Applicant Name:	Jaehyuk JANG
Customer Number:	66547
Filer:	Paul J. Farrell/Deanna Marman
Filer Authorized By:	Paul J. Farrell
Attorney Docket Number:	1398-1319
Receipt Date:	08-OCT-2021
Filing Date:	27-MAR-2020
Time Stamp:	12:27:33
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	Amendment/Req. Reconsideration-After Non-Final Reject	Amendment.pdf	234534	no	10
			ef32634f9d317017ba6d60f9e1e673bcd754e1fd		

Warnings:

Information:	
Total Files Size (in bytes):	234534
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.	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Jaehyuk JANG et al. Examiner: Brian D. NGUYEN
Serial No.: 16/832,093 Art Unit: 2472
Filed: March 27, 2020 Date: October 8, 2021
For: METHOD AND DEVICE FOR DETECTING UPLINK LBT FAILURE IN WIRELESS
COMMUNICATION SYSTEM USING UNLICENSED BAND

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

AMENDMENT TRANSMITTAL FORM

Sir:

Transmitted herewith is an amendment in the above-identified application.

- ☐ Small entity status of this application under 37 C.F.R. §§1.9 and 1.27 has been established by a verified statement previously submitted.
- ☐ A verified statement to establish small entity under 37 C.F.R. §§1.9 and 1.27 is enclosed.
- ☒ No additional fee is required.

For	Claims Remaining After Amendment	Highest No. Previously Paid For	Present Extra	Rate (Small Entity)	Addit. Fee	Rate	Addit. Fee
TOTAL CLAIMS*	16	20	0	x50 =	\$0	x100 =	\$0
INDEPENDENT CLAIMS	2	3	0	x240 =	\$0	X480 =	\$0
☐ First Presentation of Multiple Dep. Claim				410		820	\$0

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

** If the "Highest No. Previously Paid for" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest No. Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The Highest No. Previously Paid For" (Total or indep.) is the highest number found in the appropriate box in Col. 1 of a prior amendment or the number of claims originally filed.

- ☐ Please charge Deposit Account No. 50-4053 in the amount of \$____. Two (2) copies of this sheet are enclosed.
- ☐ A check in the amount of \$__ is enclosed.
- ☒ Please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. §§1.16 and/or 1.17 at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 50-4053. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-4053 therefor.

Respectfully submitted,

/Douglas M. Owens III/

Douglas M. Owens III
Reg No. 51,314
Attorney for Applicant(s)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

INVENTORS: Jaehyuk JANG et al. **ART UNIT:** 2472
APPLICATION NO.: 16/832,093 **EXAMINER:** Brian D. NGUYEN
FILING DATE: March 27, 2020 **DATED:** October 8, 2021
FOR: **METHOD AND DEVICE FOR DETECTING UPLINK
LBT FAILURE IN WIRELESS COMMUNICATION
SYSTEM USING UNLICENSED BAND**

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

AMENDMENT

In response to the Office Action of July 8, 2021, please consider the following amendments and remarks.

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method performed by a terminal in a wireless communication system, the method comprising:

receiving system information including ~~a~~listen before talk (LBT)-related ~~information~~parameter;

performing ~~an~~ LBT for a first bandwidth part (BWP) of a ~~serving~~ cell;

in case that a failure for the LBT is detected based on the system information as a result of performing the LBT, ~~triggering declaring an~~ LBT failure for the first BWP;

~~identifying whether the serving cell is a primary cell or a secondary cell; and~~

~~in case that the serving cell is the primary cell, switching from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered for operation of the terminal.~~

2. (Currently Amended) The method of claim 1, ~~further comprising, in case that the serving cell is the secondary cell, transmitting a control message associated with the LBT failure wherein the second BWP where the LBT failure is not declared is configured with a physical random access channel (PRACH) resource.~~

3. (Currently Amended) The method of ~~claim 2~~claim 1, further comprising performing a radio resource control (RRC) re-establishment procedure in ~~case that the response LBT failure is triggered being declared for all BWPs of the serving cell.~~

4. (Currently Amended) The method of claim 1, wherein the LBT-related ~~information parameter comprises~~ ~~information on a timer for a detection of the LBT failure a timer-related parameter and information on a maximum counter value for the detection of the LBT failure a counter-related parameter.~~

5. (Currently Amended) The method of claim 4, wherein ~~triggering the declaring an~~ LBT failure comprises:

~~starting the operating a timer and increasing a counter value, in case that response to an uplink signal transmission based on the LBT is not performed~~failure; and

~~triggering declaring detection of the~~LBT failure for the first BWP, in case that response to the counter value ~~being is~~ greater than or equal to the ~~maximum counter value~~counter-related parameter.

6. (Currently Amended) The method of claim 5, further comprising ~~setting resetting the~~counter value ~~to 0~~, in response to ~~case that the timer expiring~~expires.

7. (Currently Amended) The method of claim 1, further comprising performing a random access ~~procedure~~ for the second BWP.

8. (Currently Amended) The method of ~~claim 4~~claim 3, further comprising indicating, by a medium access control (MAC) layer of the terminal, the LBT failure to an upper layer ~~wherein the cell is a primary cell (PCell)~~.

9. (Currently Amended) A terminal in a wireless communication system, the terminal comprising:

a transceiver; and

a controller configured to:

~~receive, from a base station, via the transceiver, system information including a~~listen before talk (LBT)-related ~~parameter~~information,

perform an LBT for a first bandwidth part (BWP) of a serving cell,

in case that a failure for the LBT is detected ~~based on the basis of the~~system information as a result of performing the LBT, ~~declare trigger~~ an LBT failure for the first BWP,

~~identify whether the serving cell is a primary cell or a secondary cell and~~

~~in case that the serving cell is the primary cell~~ switch from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered ~~for operation of the terminal~~.

10. (Currently Amended) The terminal of claim 9, wherein the ~~controller is further configured to, in case that the serving cell is the secondary cell, transmit, via the transceiver, a control message associated with the LBT failure~~second BWP where the LBT failure is not declared is configured with a physical random access channel (PRACH) resource.

11. (Currently Amended) The terminal of ~~claim 9~~claim 10, wherein the controller is further configured to perform a radio resource control (RRC) an RRC-re-establishment procedure, in case that the response to an LBT failure is triggered being declared for all BWPs of the serving cell.

12. (Currently Amended) The terminal of claim 9, wherein the LBT-related ~~information parameter comprises~~ information on a timer for a detection of the LBT failure a timer-related parameter and information on a maximum counter value for the detection of the LBT failure a counter-related parameter.

13. (Currently Amended) The terminal of claim 12, wherein, to trigger the LBT failure, the controller is further configured to:

start the operate a timer and increase a counter value, in case that response to an uplink signal transmission based on the LBT is not performed~~failure~~, and

trigger ~~determine that the LBT failure has not been successful for the first BWP, in case that response to the counter value being is greater than or equal to the maximum counter value~~counter-related parameter.

14. (Currently Amended) The terminal of claim 13, wherein the controller is further configured to ~~reset set~~ the counter value to 0, in case that response to the timer expires~~expires.~~

15. (Currently Amended) The terminal of claim 9, wherein the controller is further configured to perform a random access procedure for the second BWP.

16. (Currently Amended) The terminal of ~~claim 9~~claim 11, wherein the controller further is configured to indicate, by a medium access control (MAC) layer of the terminal, the LBT failure to an upper layer~~random cell is a primary cell (PCell).~~

REMARKS

Claims 1-16 are pending in the application, with Claims 1 and 9 being the independent claims. As indicated above, Claims 1-16 are amended. No new matter is presented.

In the Office Action:

Claims 2 and 3 are objected to for informalities;

Claims 1, 2, 7-10, 15, and 16 are rejected under 35 U.S.C. §102(a)(2) as being anticipated by *Shi et al.* (U.S. 2021/0160927);

Claims 3 and 11 are rejected under 35 U.S.C. §103 as being unpatentable over *Shi* in view of *Wu et al.* (U.S. 2021/0168876); and

Claims 4-6 and 12-14 are rejected under 35 U.S.C. §103 as being unpatentable over *Shi* in view of *Myung et al.* (U.S. 2020/0344819).

Regarding the objection to Claims 2 and 3, the Examiner notes that Claim 2 does not end with a period. Accordingly, Claim 2 is amended, as shown above, to end with a period.

As indicated above, independent Claims 1 and 9 are rejected under 35 U.S.C. §102(a)(2) as being anticipated by *Shi*. Specifically, the Examiner asserts that *Shi* explicitly teaches all of the recitations of these claims.

Shi is directed to a random access method, a terminal device, and a network device. In *Shi*, a terminal device initiates a random access process on the target uplink BWP, determines the target uplink BWP by means of the LBT, and initiates the random access process on the target uplink BWP, in order to implement random access on an unlicensed band.

Independent Claim 1, as amended, recites a method performed by a terminal in a wireless communication system, the method comprising:

receiving system information including listen before talk (LBT)-related information;

performing an LBT for a first bandwidth part (BWP) of a serving cell;

in case that a failure for the LBT is detected based on the system information as a result of performing the LBT, triggering an LBT failure for the first BWP;

identifying whether the serving cell is a primary cell or a secondary cell; and

in case that the serving cell is the primary cell, switching from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered.

Amended independent Claim 9 includes similar recitations, but in apparatus form.

It is respectfully submitted that *Shi* fails to teach or suggest at least the amended recitations of independent Claims 1 and 9.

More specifically, *Shi* describes a terminal performing a BWP switch when LBT failure is detected, and that the terminal performs PCell and SCell operations in an unlicensed band in case of standing alone. That is, *Shi* does not distinguish between terminal operations based on whether a cell where the LBT failure is detected is a PCell or an SCell. Therefore, *Shi* fails to teach or suggest “identifying whether the serving cell is a primary cell or a secondary cell,” as recited in amended independent Claims 1 and 9.

For the same reasoning, *Shi* also fails to teach or suggest in case that the serving cell is the primary cell, switching from the first BWP to a second BWP of the serving cell, the second BWP being configured with a physical random access channel (PRACH) resource and being for which the LBT failure is not triggered, i.e., switching, when the cell in which the LBT failure is detected is the PCell, to a BWP where a PRACH resource is configured and the LBT failure has not occurred.

MPEP §2131 Anticipation, clearly states that to anticipate a claim, the reference must teach every element of the claim. In addition, The United States Court of Appeals for the Federal Circuit has consistently held “that unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and,

thus, cannot anticipate under 35 U.S.C. §102.” *Net Moneyin, Inc., v. Verisign, Inc.*, 545 F.3d 1359 (Fed. Cir. 2008).

As described above, *Shi* does not disclose within the four corners of the document all of the limitations claimed nor all of the limitations arranged or combined in the same way as recited in amended independent Claims 1 and 9. Therefore, *Shi* fails to anticipate amended independent Claims 1 and 9, and the rejection should be withdrawn.

Without conceding the patentability of the dependent claims, *per se*, these claims are at least allowable over the art of record based on their dependency from their respective base claims.

All of the pending claims of the present application are believed to be in condition for allowance. Should the Examiner believe that a telephone conference or personal interview would facilitate resolution of any remaining matters, the Examiner may contact Applicant’s attorney at the number given below.

Respectfully submitted,

/Douglas M. Owens III/

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,093	03/27/2020	Jaehyuk JANG	1398-1319	4491
66547 7590 07/08/2021 THE FARRELL LAW FIRM, P.C. Paul J Farrell 290 Broadhollow Road Suite 210E Melville, NY 11747			EXAMINER NGUYEN, BRIAN D	
			ART UNIT 2472	PAPER NUMBER
			NOTIFICATION DATE 07/08/2021	DELIVERY MODE 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):

pto@farrelliplaw.com

Office Action Summary

Application No.

16/832,093

Applicant(s)

JANG et al.

Examiner

BRIAN D NGUYEN

Art Unit

2472

AIA (FITF) Status

Yes

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

Period for Reply

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

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 3/27/20.

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

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

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

Disposition of Claims*

5) ☒ Claim(s) 1-16 is/are pending in the application.

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

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-16 is/are rejected.

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

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

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

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

11) ☒ The drawing(s) filed on 3/27/20 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

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

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

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☒ All b) ☐ Some** c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

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

Attachment(s)

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

3) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Claim Objections

2. Claims 2-3 are objected to because of the following informalities:

Claim 2, line 2, it is suggested to insert “.” at the end of the claim.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(2) the claimed invention was described in a patent issued under section 151, or in an application for patent published or deemed published under section 122(b), in which the patent or application, as the case may be, names another inventor and was effectively filed before the effective filing date of the claimed invention.

4. Claims 1-2, 7-10, and 15-16 are rejected under 35 U.S.C. 102(a)(2) as being anticipated by Shi (2021/0160927).

Regarding claims 1 and 9, Shi discloses a terminal and a method performed by a terminal in a wireless communication system, the method comprising: receiving system information including a listen before talk (LBT)-related parameter (see threshold value and indication information in paragraphs 0013, 0014, 0023, and 0027); performing LBT for a first bandwidth part (BWP) of a cell (see the currently activated uplink first BWP in paragraph 0011); in case that a failure for the LBT is detected based on the system information as a result of performing

the LBT, declaring an LBT failure for the first BWP (see the first uplink BWP fails in paragraph 0011); and switching from the first BWP to a second BWP for operation of the terminal (see switching the currently activated uplink BWP from the first uplink BWP to a second uplink BWP).

Regarding claims 2 and 10, Shi discloses wherein the second BWP where the LBT failure is not declared is configured with a physical random access channel (PRACH) resource (see the second uplink BWP is configured with a contention-based random access resource in paragraph 0012 and the PRACH resource is located in paragraph 0025).

Regarding claims 7 and 15, Shi discloses performing random access for the second BWP (see the second uplink BWP is configured with a contention-based random access resource in paragraph 0012).

Regarding claims 8 and 16, Shi discloses wherein the cell is a primary cell (PCell) (see PCell in paragraph 0004).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 11 are rejected under 35 U.S.C. 103 as being unpatentable over Shi in view of Wu et al (2021/0168876).

Regarding claims 3 and 11, Shi doesn't specifically disclose performing a radio resource control (RRC) re-establishment procedure in response LBT failure being declared for all BWPs

of the cell. However, reestablishing an RRC connection after a radio link Failure is well known in the art. Wu discloses this feature (See After a radio link fails, the UE needs to reestablish an RRC connection in paragraph 0157). The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

6. Claim 4-6 and 12-14 are rejected under 35 U.S.C. 103 as being unpatentable over Shi in view of Myung et al (2020/0344819).

Regarding claims 4 and 12, Shi discloses a counter-related parameter (see a number of failures is greater than or equal to a first threshold value in paragraph 0013) but doesn't specifically disclose a timer-related parameter. However, Myung discloses this feature (see the UE may switch to a different bandwidth part when the UE fails in the CAP operation for a specific time duration or for at least a specific count in paragraphs 0011, 0019, 0347, and 0348). The claim would have been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

Regarding claims 5 and 13, Myung discloses wherein declaring an LBT failure comprises: operating a timer and increasing a counter value, in response to an uplink signal transmission failure; and declaring detection of the LBT failure for the first BWP, in response to the counter value being greater than or equal to the counter-related parameter (see the UE may switch to a different bandwidth part when the UE fails in the CAP operation for a specific time duration or for at least a specific count in paragraphs 0011, 0019, 0347, and 0348).

Regarding claims 6 and 14, Myung discloses resetting the counter value, in response to the timer expiring (see the expiry of a timer and reset in paragraph 0347).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN D NGUYEN whose telephone number is (571)272-3084. The examiner can normally be reached on Monday-Friday 8:00 - 4:30.

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, Hassan Kizou can be reached on 571-272-3088. 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 <https://ppair-my.uspto.gov/pair/PrivatePair>. 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.

Application/Control Number: 16/832,093
Art Unit: 2472

Page 6

/BRIAN D NGUYEN/
Primary Examiner, Art Unit 2472

<i>Notice of References Cited</i>	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.	
	Examiner BRIAN D NGUYEN	Art Unit 2472	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-20210160927-A1	05-2021	SHI; Cong	H04W74/0816	1/1
*	B	US-20210168876-A1	06-2021	WU; Ji	H04L5/0016	1/1
*	C	US-20200344819-A1	10-2020	MYUNG; Sechang	H04W74/0808	1/1
*	D	US-20210204330-A1	07-2021	TANG; Hai	H04W56/001	1/1
*	E	US-20210099259-A1	04-2021	Salem; Mohamed Adel	H04L1/1854	1/1
*	F	US-20210099963-A1	04-2021	Jeon; Hyoungsuk	H04W74/0866	1/1
*	G	US-20210084616-A1	03-2021	Vaidya; Maulik	H04W68/02	1/1
*	H	US-20210044392-A1	02-2021	MYUNG; Sechang	H04W16/14	1/1
*	I	US-20200221495-A1	07-2020	CHEN; HUNG-CHEN	H04W36/305	1/1
	J					
	K					
	L					
	M					

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	N					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	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.

U.S. Patent and Trademark Office
PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 20210702

<i>Search Notes</i> 	Application/Control No. 16/832,093	Applicant(s)/Patent Under Reexamination JANG et al.
	Examiner BRIAN D NGUYEN	Art Unit 2472

CPC - Searched*		
Symbol	Date	Examiner
H04W 74/0833, 72/0493, 72/0413, 74/0808, 24/08, 16/14, 76/19	07/02/2021	bn

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
EAST and NPL	07/02/2021	bn

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"16832093"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:39
S2	57,843	H04W74/0833.cpc. H04W72/0493.cpc. H04W72/0413.cpc. H04W74/0808.cpc. H04W24/08.cpc. H04W16/14.cpc. H04W76/19.cpc.	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S3	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:42
S4	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S5	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S6	14,451,754	S3 S4 S5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:43
S7	913	((("JANG") near3 ("Jaehyuk")) OR (("AGIWAL") near3 ("Anil"))).INV.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2021/07/01 19:43
S8	10,669	(listen\$3before\$4talk lbt)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:44
S9	4,601	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S10	5,459	(bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S11	685	S9 and S10	US-PGPUB; USPAT	OR	ON	2021/07/01 19:45
S12	547	S11 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S13	1,394	switch\$4 near4 (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S14	1,532	switch\$4 with (bandwidth\$4part bwp)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S15	1,394	S13 and S14	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46
S16	222	S12 and S15	US-PGPUB; USPAT	OR	ON	2021/07/01 19:46

S17	1,588	(listen\$3before\$4talk lbt) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S18	105	S16 and S17	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S19	9,753	(random adj3 access adj3 channel prach rach) adj3 resource	US-PGPUB; USPAT	OR	ON	2021/07/01 19:47
S20	71	S18 and S19	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S21	62	S20 and (counter timer)	US-PGPUB; USPAT	OR	ON	2021/07/01 19:48
S22	9,819	re\$3establish\$6 with rrc	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S23	47	S21 and S22	US-PGPUB; USPAT	OR	ON	2021/07/01 19:50
S24	795	(listen\$3before\$4talk lbt) with (parameter count\$4 tim\$4) with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/01 20:03
S25	105	S24 and S13	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S26	77	S25 and S6	US-PGPUB; USPAT	OR	ON	2021/07/01 20:04
S27	35	S26 and rrc with re\$4establish\$7	US-PGPUB; USPAT	OR	ON	2021/07/01 20:24
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S29	1	S28 and (count\$4 tim\$4)	US-PGPUB; USPAT	OR	ON	2021/07/02 10:13
S30	80	(listen\$3before\$4talk lbt) with count\$4 with tim\$4 with fail\$5	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S31	14,005,066	@ad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S32	5,641,801	@prad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S33	5,373,592	@rlad<="20190328"	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S34	14,451,754	S31 S32 S33	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S35	58	S30 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 10:17
S36	5	RRC with re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06
S37	4	S36 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:06

S38	8	rrc and re\$3establish\$4 with LBT with fail\$3	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S39	6	S38 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:08
S40	8	RRC with re\$3establish\$4 with LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S41	4,029	RRC with re\$3establish\$4 with fail\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:10
S42	599	S41 and LBT	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S43	571	S42 and S34	US-PGPUB; USPAT	OR	ON	2021/07/02 11:11
S44	1	("20200344819").PN.	US-PGPUB; USPAT	OR	OFF	2021/07/02 11:21
S45	1	S44 and count\$4 and tim\$4 and expir\$4	US-PGPUB; USPAT	OR	ON	2021/07/02 11:22

EAST Search History (Interference)

<This search history is empty>

7/2/2021 12:05:11 PM

C:\Users\bnguyen2\Documents\EAST\Workspaces\16832093.wsp

Bibliographic Data

Application No: 16/832,093

Foreign Priority claimed:

☒ Yes ☐ No

35 USC 119 (a-d) conditions met:

☒ Yes ☐ No

☐ Met After Allowance

Verified and Acknowledged:

/BRIAN D NGUYEN/

Examiner's Signature

Initials

Title:

METHOD AND DEVICE FOR DETECTING UPLINK LBT
FAILURE IN WIRELESS COMMUNICATION SYSTEM USING
UNLICENSED BAND

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
03/27/2020	370	2472	
RULE			

APPLICANTS

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Jaehyuk JANG, Gyeonggi-do, KOREA, REPUBLIC OF

Anil AGIWAL, Gyeonggi-do, KOREA, REPUBLIC OF

CONTINUING DATA

FOREIGN APPLICATIONS

KOREA, REPUBLIC OF KR10-2019-0035577 03/28/2019

IF REQUIRED, FOREIGN LICENSE GRANTED**

04/07/2020

STATE OR COUNTRY

KOREA, REPUBLIC OF

ADDRESS

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\$1,720

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Jaehyuk JANG et al.

Serial No.: 16/832,093

Docket: 1398-1319

Filed: March 27, 2020

Dated: September 29, 2020

For: **METHOD AND DEVICE FOR DETECTING UPLINK LBT
FAILURE IN WIRELESS COMMUNICATION SYSTEM USING
UNLICENSED BAND**

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

INFORMATION DISCLOSURE STATEMENT

Sir:

Pursuant to Applicant's duty of disclosure, it is respectfully requested that the each item of information listed in the attached form PTO-1449 be considered by the Examiner and made of record in the above-identified application. Copies of the listed items are attached hereto.

The citation of the listed items is not a representation that a search has been made.

The filing of this Information Disclosure Statement is not an admission that the information cited herein is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The listed items were cited by the Korean Patent Office in a counterpart application, namely Appln. No. PCT/KR2020/004200. A copy of the International Search Report dated July 2, 2020 is attached hereto.

CERTIFICATION UNDER 37 C.F.R. §1.97(e)(1)

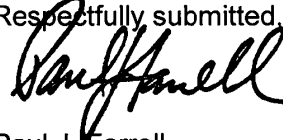
Applicant submits that each item of information contained in the attached Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the Information Disclosure Statement.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /B.D.N/

The claims of the application as now presented are believed to patentably distinguish over the prior art and to be in condition for allowance. Early and favorable consideration of the case is respectfully requested.

The Director of the USPTO is hereby authorized to charge any required fees which may become due to Deposit Account No. 50-4053.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant

THE FARRELL LAW FIRM, P.C.
290 Broadhollow Road, Suite 210E
Melville, NY 11747
(516) 228-3565

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Approved for use through 07/31/2012. OMB 0651-0031

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Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	16/832,093
				Filing Date	March 27, 2020
				First Named Inventor	Jaehyuk JANG et al.
				Art Unit	
				Examiner Name	
Sheet 1		of 2	Attorney Docket Number	1398-1319	

[illegible]

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T ⁶
		Country Code ³ ~Number ⁴ ~Kind Code ⁵ (if known)				
		WO 2019/035631	02-21-2019			✓

Examiner Signature	/BRIAN D NGUYEN/	Date Considered	07/01/2021
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ² Applicant's unique citation designation number (optional). ³ See Kind Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ⁴ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁵ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁶ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁷ Applicant is to place a check mark here if English language Translation is attached.

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 2 hours 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, 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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Substitute for form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	16/832,093
		Filing Date	March 27, 2020
		First Named Inventor	Jaehyuk JANG et al.
		Art Unit	
		Examiner Name	
Sheet 2	of 2	Attorney Docket Number	1398-1319

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. ¹	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, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	1.	Ericsson, "Handling UL LBT Failures", R2-1901674, 3GPP TSG RAN WG2 #105, February 25 - March 1, 2019, 3 pages	
	2.	CMCC, "Consideration on BWP Switching and Multi-Activation for NR-U", R2-1901944, 3GPP TSG-RAN wG2 Meeting #105, February 25 - March 1, 2019, 3 pages	
	3.	OPPO, "Introduce LBT Failure Counter in MAC Layer", R2-1901189, 3GPP TSG-RAN WG2 Meeting #105, February 25 - March 1, 2019, 3 pages	
	4.	International Search Report dated July 2, 2020 issued in counterpart application No. PCT/KR2020/004200, 7 pages	

Examiner Signature	/BRIAN D NGUYEN/	Date Considered	07/01/2021
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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 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 2 hours 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, 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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SIMPLE SEARCH

Search filters

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listen before talk

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