UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 11,075,786 B1
APPLICATION NO. : 16/796888
DATED : July 27, 2021
INVENTOR(S) : Steve Shattil

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

In the Specification

Column 1, Line 12:
-- patent Ser. No. 10/574,497, --
Should be changed to:
-- Pat. No. 10,574,497, which is a Continuation of U.S. patent application Ser. No. 15/642,850, filed Jul 6, 2017, now U.S. Pat. No. 10,015,034, --

Signed and Sealed this
Fifth Day of October, 2021

Drew Hirshfeld
Performing the Functions and Duties of the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/796,888	02/20/2020	Steve Shattil	SA-005.US1	7996

74284 7590 09/15/2021

Steven J Shattil
P.O. Box 17355
Boulder, CO 80308-0355

EXAMINER	
LO, DIANE LEE	

ART UNIT	PAPER NUMBER
2466	

MAIL DATE	DELIVERY MODE
09/15/2021	PAPER

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

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

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

Patent No.: 11075786
Issue Date: 07/27/2021
Appl. No.: 16/796,888
Filed: 02/20/2020

PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed 03 September 2021.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)
☑ Approved ☐ Approved in Part ☐ Denied

Comments: ____

PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☐ This is a decision on the petition filed ____ to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed ____. In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☐ Granted ☐ Dismissed

Comment: ____

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/FARUK HAMZA/
Supervisory Patent Examiner, Art Unit 2466
Technology Center 2400
Phone: (571)272-7969

Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number: 16/796,888

Patent Number: 11,075,786

Filing Date: 20-FEB-2020

Inventor: Shattil

Title: "MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING"

Atty. Docket No. SA-005.US1

CERTIFICATE OF CORRECTION

Commissioner for Patents

Office of Data Management Attention: Certificates of Correction Branch

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted a mistake of a clerical or typographical nature which should be corrected. The mistake occurred in good faith, and its correction does not involve such changes in the patent as would constitute new matter or would require re-examination. The requested correction does not change the Related U.S. Application Data in the above-identified patent.

Transmitted herewith is a proposed Certificate of Correction. Patentee respectfully solicits the granting of the requested Certificate of Correction.

Respectfully submitted,

Samsung Exhibit 1066, Page 4 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

/Steven J Shattil/

Steven J. Shattil, Reg. No. 40,170
P.O. Box 17355
Boulder, CO 80308-0355
(720) 234-4351

Samsung Exhibit 1066, Page 5 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

PTO/SB/44 (09-07)
Approved for use through 03/31/2023. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 11,075,786

APPLICATION NO.: 16/796,888

ISSUE DATE : 07/27/2021

INVENTOR(S) : Steve Shattil

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col. 1, line 12
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should be changed to
-- Pat. No. 10,574,497, which is a Continuation of U.S. patent application Ser. No. 15/642,850, filed Jul 6, 2017, now U.S. Pat. No. 10,015,034, --

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):

Steven J Shattil
PO Box 17355, Boulder, CO 80308

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

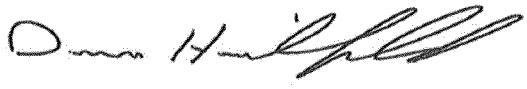
PATENT NO. : 11,075,786 B1
APPLICATION NO. : 16/796888
DATED : July 27, 2021
INVENTOR(S) : Steve Shattil

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

In the Specification

Column 1, Line 22:
-- 9,042,333 --
Should be changed to:
-- 8,750,264 --

Signed and Sealed this
Twenty-fourth Day of August, 2021



Drew Hirshfeld
Performing the Functions and Duties of the
Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

PTO/SB/44 (09-07)
Approved for use through 03/31/2023. OMB 0651-0033
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CERTIFICATE OF CORRECTION

PATENT NO. : 11,075,786

APPLICATION NO.: 16/796,888

ISSUE DATE : 07/27/2021

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PO Box 17355, Boulder, CO 80308

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number: 16/796,888

Patent Number: 11,075,786

Filing Date: 20-FEB-2020

Inventor: Shattil

Title: "MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING"

Atty. Docket No. SA-005.US1

CERTIFICATE OF CORRECTION

Commissioner for Patents

Office of Data Management Attention: Certificates of Correction Branch

P.O. Box 1450

Alexandria, VA 22313-1450

Dear Sir:

Upon reviewing the above-identified patent, Patentee noted a mistake of a clerical or typographical nature which should be corrected. The mistake occurred in good faith, and its correction does not involve such changes in the patent as would constitute new matter or would require re-examination. The requested correction does not change the Related U.S. Application Data in the above-identified patent.

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Respectfully submitted,

Samsung Exhibit 1066, Page 9 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

/Steven J Shattil/

Steven J. Shattil, Reg. No. 40,170
P.O. Box 17355
Boulder, CO 80308-0355
(720) 234-4351

Samsung Exhibit 1066, Page 10 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/796,888	07/27/2021	11075786	SA-005.US1	7996

74284 7590 07/07/2021

Steven J Shattil
P.O. Box 17355
Boulder, CO 80308-0355

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 34 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):

Genghiscomm Holdings, LLC, Boulder, CO;
Steve Shattil, Cheyenne, WY;

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

74284 7590 05/24/2021

Steven J Shattil
P.O. Box 17355
Boulder, CO 80308-0355

EXAMINER
LO, DIANE LEE

ART UNIT	PAPER NUMBER
2466	

DATE MAILED: 05/24/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/796,888	02/20/2020	Steve Shattil	SA-005.US1	7996

TITLE OF INVENTION: MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	08/24/2021

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

74284 7590 05/24/2021

Steven J Shattil
P.O. Box 17355
Boulder, CO 80308-0355

EXAMINER
LO, DIANE LEE

ART UNIT	PAPER NUMBER
2466	

DATE MAILED: 05/24/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/796,888	02/20/2020	Steve Shattil	SA-005.US1	7996

TITLE OF INVENTION: MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	08/24/2021

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)

74284 7590 05/24/2021

Steven J Shattil
P.O. Box 17355
Boulder, CO 80308-0355

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.
16/796,888	02/20/2020	Steve Shattil	SA-005.US1	7996

TITLE OF INVENTION: MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	08/24/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
LO, DIANE LEE	2466	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,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

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

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

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

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

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

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

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

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Samsung Exhibit 1066, Page 14 of 71
Samsung Electronics Co., Ltd. et al. v. Georgia Tech Research Corp. et al.
IPR2025-00790

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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EXAMINER	
LO, DIANE LEE	

ART UNIT	PAPER NUMBER
2466	

DATE MAILED: 05/24/2021

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.

Samsung Exhibit 1066, Page 15 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

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

Notice of Allowability	Application No. 16/796,888	Applicant(s) Shattil, Steve	
	Examiner DIANE L LO	Art Unit 2466	AIA (FITF) Status No

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

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

1. ☑ This communication is responsive to application filed 02/20/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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

3. ☑ The allowed claim(s) is/are 53-79 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

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

   Certified copies:

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

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

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

/DIANE L LO/
Primary Examiner, Art Unit 2466

REASONS FOR ALLOWANCE

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

The closest prior arts on record fail to teach "applying the encoded data symbols to the plurality of subcarriers to produce a spread-Orthogonal Frequency Division Multiplexing (OFDM) signal; and transmitting the spread-OFDM signal; wherein the first set of complex valued codes are complex conjugates of the second set of complex valued codes." in conjunction with all disclosed steps of functions or all disclosed structures performing corresponding functions in claims 53, 62 and 71.

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

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIANE LEE LO whose telephone number is (571)270-1952. The examiner can normally be reached on Monday - Friday 8 am - 5 pm.

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

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Faruk Hamza can be reached on (571)272-7969. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see 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.

/DIANE L LO/
Primary Examiner, Art Unit 2466

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	Docket No.: SA-005.US1
Steve Shattil	Confirmation No.: 7996
Application No.: 16796888	Group Art Unit:
Filed: FEB 20, 2020	Examiner:

For: **MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING**

Commissioner for Patents
P.O. BOX 1700
Alexandria, VA 22313-1700

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, please amend the above-identified application as follows.

Amendments to the Claims begin on page 2.

Remarks begin on page 8.

CLAIMS

Please **CANCEL** claims 27-52 without prejudice or disclaimer.

Please **ADD** claims 53-79 as follows.

The following is a complete list of all claims in this application.

Claims 1 – 26 (Previously Canceled).

Claims 27 – 52 (Canceled)

53. (New) A method of communication in a wireless communication network that employs a first set of complex-valued codes to encode data symbols to be transmitted, and employs a second set of complex-valued codes to recover transmitted data symbols from a received signal, the method comprising:

selecting a plurality of subcarriers to be transmitted;

encoding the data symbols with the first set of complex-valued codes to produce encoded data symbols;

applying the encoded data symbols to the plurality of subcarriers to produce a spread- Orthogonal Frequency Division Multiplexing (OFDM) signal; and

transmitting the spread-OFDM signal;

wherein the first set of complex-valued codes are complex conjugates of the second set of complex-valued codes.

Samsung Exhibit 1066, Page 21 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

54. (New) The method of claim 53, wherein selecting is responsive to spectrum allocation or is configured to provide for orthogonal frequency division multiple access.

55. (New) The method of claim 53, wherein selecting comprises selecting subcarrier frequency spacing.

56. (New) The method of claim 53, wherein an inverse discrete Fourier transform (IDFT) produces the spread-OFDM signal, and selecting comprises providing a set of zero and non-zero values to input frequency bins of the IDFT.

57. (New) The method of claim 53, wherein selecting comprises selecting subcarriers for control signaling or pilot tones.

58. (New) The method of claim 53, wherein the plurality of subcarriers are contiguous subcarriers or interleaved subcarriers.

59. (New) The method of claim 53, wherein encoding comprises multiplying a vector or matrix of data symbols with a vector or matrix comprising the first set of complex-valued codes.

60. (New) The method of claim 53, wherein applying comprises modulating the encoded data symbols onto the plurality of subcarriers.

61. (New) The method of claim 53, further comprising adding a cyclic prefix to the spread-OFDM signal before transmitting the spread-OFDM signal.

62. (New) An apparatus for communication in a wireless communication network that employs a first set of complex-valued codes to encode data symbols to be

Samsung Exhibit 1066, Page 22 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

transmitted, and employs a second set of complex-valued codes to recover transmitted data symbols from a received signal, the apparatus comprising:

at least one processor; and

a non-transitory computer-readable memory communicatively coupled to the at least one processor, the non-transitory computer-readable memory including a set of instructions stored thereon and executable by the at least one processor for:

selecting a plurality of subcarriers to be transmitted;

encoding the data symbols with the first set of complex-valued codes to produce encoded data symbols;

applying the encoded data symbols to the plurality of subcarriers to produce a spread- Orthogonal Frequency Division Multiplexing (OFDM) signal; and

transmitting the spread-OFDM signal;

wherein the first set of complex-valued codes are complex conjugates of the second set of complex-valued codes.

63. (New) The apparatus of claim 62, wherein selecting is responsive to spectrum allocation or is configured to provide for orthogonal frequency division multiple access.

64. (New) The apparatus of claim 62, wherein selecting comprises selecting frequency spacing of the plurality of subcarriers.

65. (New) The apparatus of claim 62, wherein an inverse discrete Fourier transform (IDFT) produces the spread-OFDM signal, and selecting comprises providing a set of zero and non-zero values to input frequency bins of the IDFT.

Samsung Exhibit 1066, Page 23 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

66. (New) The apparatus of claim 62, wherein selecting comprises selecting subcarriers for control signaling or pilot tones.

67. (New) The apparatus of claim 62, wherein the plurality of subcarriers are contiguous subcarriers or interleaved subcarriers.

68. (New) The apparatus of claim 62, wherein encoding comprises multiplying a vector or matrix of data symbols with a vector or matrix comprising the first set of complex-valued codes.

69. (New) The apparatus of claim 62, wherein applying comprises modulating the encoded data symbols onto the plurality of subcarriers.

70. (New) The apparatus of claim 62, wherein the non-transitory computer-readable memory further includes instructions stored thereon and executable by the processor for adding a cyclic prefix to the spread-OFDM signal before transmitting the spread-OFDM signal.

71. (New) A computer program product for operating a transmitter in a wireless communication network that employs a first set of complex-valued codes to encode data symbols to be transmitted, and employs a second set of complex-valued codes to recover transmitted data symbols from a received signal, the computer program product comprising a non-transitory computer readable storage device having computer readable program code stored therein, said program code containing instructions executable by one or more processors of a computer system for:

selecting a plurality of subcarriers to be transmitted;

Samsung Exhibit 1066, Page 24 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

encoding the data symbols with the first set of complex-valued codes to produce encoded data symbols;

applying the encoded data symbols to the plurality of subcarriers to produce a spread- Orthogonal Frequency Division Multiplexing (OFDM) signal; and

transmitting the spread-OFDM signal;

wherein the first set of complex-valued codes are complex conjugates of the second set of complex-valued codes.

72. (New) The computer program product of claim 71, wherein selecting is responsive to spectrum allocation or is configured to provide for orthogonal frequency division multiple access.

73. (New) The computer program product of claim 71, wherein selecting comprises selecting frequency spacing of the plurality of subcarriers.

74. (New) The computer program product of claim 71, wherein an inverse discrete Fourier transform (IDFT) produces the spread-OFDM signal, and selecting comprises providing a set of zero and non-zero values to input frequency bins of the IDFT.

75. (New) The computer program product of claim 71, wherein selecting comprises selecting subcarriers for control signaling or pilot tones.

76. (New) The computer program product of claim 71, wherein the plurality of subcarriers are contiguous subcarriers or interleaved subcarriers.

Samsung Exhibit 1066, Page 25 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

77. (New) The computer program product of claim 71, wherein encoding comprises multiplying a vector or matrix of data symbols with a vector or matrix comprising the first set of complex-valued codes.

78. (New) The computer program product of claim 71, wherein applying comprises modulating the encoded data symbols onto the plurality of subcarriers.

79. (New) The computer program product of claim 71, wherein said program code further includes instructions executable by the one or more processors of the computer system for adding a cyclic prefix to the spread-OFDM signal before transmitting the spread-OFDM signal.

Samsung Exhibit 1066, Page 26 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

REMARKS

By this amendment, claims 27 - 52 are canceled and claims 53-79 are newly added. Accordingly, claims 53-79 are currently pending in this application. Applicant respectfully contends that no issue of new matter has been added by this amendment.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully Submitted,

/Steven J Shattil/

Steven J Shattil

Reg. No. 65,170

Samsung Exhibit 1066, Page 27 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

PTO/SB/06 (09-11)
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/796,888	Filing Date 02/20/2020	☐ 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), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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		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	

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	09/08/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 27	Minus	** 26	= 1		x $50 =	50
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 4	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	50

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/EVA V GILLIS/
*** 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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

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

Inventor Information:

Inventor 1 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Steve		Shattil	

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

City	Cheyenne	State/Province	WY	Country of Residence	US

Mailing Address of Inventor:

Address 1	PO Box 17355
Address 2	

City	Boulder	State/Province	CO
Postal Code	80308	Country	US

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	74284		
Email Address	genghiscomm@gmail.com	Add Email	Remove Email

Application Information:

Title of the Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING		
Attorney Docket Number	SA-005.US1	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	111	Suggested Figure for Publication (if any)	68

Filing By Reference :

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

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

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

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

Publication Information:

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

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

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	◯ Limited Recognition (37 CFR 11.9)
Customer Number	74284		

Domestic Benefit/National Stage Information:

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

Prior Application Status: Patented — Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	16199221	2018-11-26	10644916	2020-05-05

Prior Application Status: Patented — Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16199221	Continuation of	16027191	2018-07-03	10574497	2020-02-25

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16027191	Continuation of	15642850	2017-07-06	10015034	2018-07-03
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15642850	Continuation of	15489664	2017-04-17	9800448	2017-10-24
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15489664	Continuation of	15149382	2016-05-09	9628231	2017-04-18
Prior Application Status	Pending				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
15149382	Continuation in part of	14727769	2015-06-01		
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14727769	Continuation of	14276309	2014-05-13	9048897	2015-06-02
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14276309	Continuation of	12545572	2009-08-21	9042333	2015-05-26
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12545572	Division of	11187107	2005-07-22	8670390	2014-03-11
Prior Application Status	Expired				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
11187107	Claims benefit of provisional	60598187	2004-08-02		

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

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

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

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

Applicant Information:

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Applicant 1 — Remove

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

Clear

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

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

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	Genghiscomm Holdings, LLC

Mailing Address Information For Applicant:

Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

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

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Organization Name	Genghiscomm Holdings, LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country i	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

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

Signature	/Steven J Shattil/			Date (YYYY-MM-DD)	2020-02-20
First Name	Steven	Last Name	Shattil	Registration Number	40170

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

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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

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

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

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

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Steve		Shattil	

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

City	Cheyenne	State/Province	WY	Country of Residence	US

Mailing Address of Inventor:

Address 1	PO Box 17355		
Address 2			
City	Boulder	State/Province	CO
Postal Code	80308	Country	US

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	74284		
Email Address	genghiscomm@gmail.com	Add Email	Remove Email

Application Information:

Title of the Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING		
Attorney Docket Number	SA-005.US1	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	111	Suggested Figure for Publication (if any)	68

Filing By Reference :

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

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

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

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

Publication Information:

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

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

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	74284		

Domestic Benefit/National Stage Information:

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

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	~~Continuation in part of~~	~~16502723~~	~~2019-07-23~~

Prior Application Status	~~Patented~~				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
~~16502723~~	~~Continuation of~~	~~14789949~~	~~2015-07-01~~	~~10355720~~	~~2019-07-16~~

Prior Application Status	~~Patented~~	Remove

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
~~14789949~~	~~Continuation in part of~~	~~13116984~~	~~2011-05-26~~	~~10014882~~	~~2018-07-03~~
Prior Application Status	~~Patented~~			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
~~13116984~~	~~Continuation in part of~~	~~12328917~~	~~2008-12-05~~	~~7965761~~	~~2011-06-21~~
Prior Application Status	~~Patented~~			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
~~12328917~~	~~Division of~~	~~11621014~~	~~2007-01-08~~	~~7593449~~	~~2009-09-22~~
Prior Application Status	~~Patented~~			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
~~11621014~~	~~Division of~~	~~10131163~~	~~2002-04-24~~	~~7430257~~	~~2008-09-30~~
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	16199221	2018-11-26	10644916	2020-05-05
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16199221	Continuation of	16027191	2018-07-03	10574497	2020-02-25
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16027191	Continuation of	15642850	2017-07-06	10015034	2018-07-03
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15642850	Continuation of	15489664	2017-04-17	9800448	2017-10-24
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15489664	Continuation of	15149382	2016-05-09	9628231	2017-04-18
Prior Application Status	Pending			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
15149382	Continuation in part of	14727769	2015-06-01		
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14727769	Continuation of	14276309	2014-05-13	9143897	2015-09-22

Samsung Exhibit 1066, Page 1 of 2
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14276309	Continuation of	12545572	2009-08-21	9042333	2015-05-26
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12545572	Division of	11187107	2005-07-22	8670390	2014-03-11
Prior Application Status	Expired				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
11187107	Claims benefit of provisional	60598187	2004-08-02		

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

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			Remove
Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

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Applicant Information:

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Applicant 1

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

Clear

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

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

Name of the Deceased or Legally Incapacitated Inventor :	

If the Applicant is an Organization check here. ☒

Organization Name	Genghiscomm Holdings, LLC

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Mailing Address Information For Applicant:			
Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

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

Assignee Information including Non-Applicant Assignee Information:

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If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	Genghiscomm Holdings, LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:			
Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

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

Signature	/Steven J Shattil/	Date (YYYY-MM-DD)	2020-02-20

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

First Name	Steven	Last Name	Shattil	Registration Number	40170
Additional Signature may be generated within this form by selecting the Add button.					

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

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 C o o p eration Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	39329660
Application Number:	16796888
International Application Number:	
Confirmation Number:	7996
Title of Invention:	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING
First Named Inventor/Applicant Name:	Steve Shattil
Customer Number:	74284
Filer:	Steven J Shattil
Filer Authorized By:	
Attorney Docket Number:	SA-005.US1
Receipt Date:	01-MAY-2020
Filing Date:	20-FEB-2020
Time Stamp:	15:30:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Preliminary Amendment	SA_005US1_Preliminary_Amendment_05_01_2020.pdf	140047 857ab86a46bb16be84662010f991b4e5e1f2d6a4	no	10

Warnings:

Information:					
2	Application Data Sheet	aia0014_SA005_1clean.pdf	1561893 750720a4600f1934beefe145af7fcb4bfc0269e6	no	7
Warnings:					
Information:					
3	Application Data Sheet	aia0014_SA005_1updated_markup.pdf	161036 847a0305047891b147cb29d406e3e4a56e02b7d6	no	8
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	1862976	

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	Docket No.: SA-005.US1
Steve Shattil	Confirmation No.: 7996
Application No.: 16796888	Group Art Unit:
Filed: FEB 20, 2020	Examiner:

For: **MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING**

Commissioner for Patents
P.O. BOX 1700
Alexandria, VA 22313-1700

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, please amend the above-identified application as follows.

Amendments to the Specification begin on page 2.

The listing of Claims begins on page 4.

Remarks begin on page 10.

Marked up and Clean versions of the Application Data Sheet accompany this letter.

AMENDMENTS TO THE SPECIFICATION

Please AMEND the first heading under the title of the invention on page 2 as follows.

-- CROSS REFERENCE TO PRIOR ~~RELATED~~ APPLICATIONS –

Please DELETE the first paragraph of the specification under the first heading on page 2 that that begins with "This application is a continuation of U.S. Pat. Appl. 16/502,723…" and ends with "…7,430,257."

Please ADD the following first paragraph of the specification under the amended first heading on page 1 as follows.

-- This application is a Continuation of U.S. Pat. Appl. No. 16/199,221, filed November 26, 2018, now U.S. Pat. No. 10,644,916, which is a Continuation of U.S. Pat. Appl. No. 16/027,191, filed July 3, 2018, now U.S. Pat. No. 10/574,497, which is a Continuation of U.S. Pat. Appl. No. 15/489,664, filed April 17, 2017, now U.S. Pat. No. 9.800,448, which is a Continuation of U.S. Pat. Appl. No. 15/149,382, filed May 9, 2016, now U.S. Pat. No. 9,628,231, which is a Continuation-in-Part of U.S. Pat. Appl. No. 14/727,769, filed June 1, 2015, which is a Continuation of U.S. Pat. Appl. No. 14/276,309, filed May 13, 2014, now U.S. Pat. No. 9,048,897, which is a Continuation of U.S. Pat. Appl. No. 12/545,572, filed August 21, 2009, now U.S. Pat. No. 9,042,333, which is a Divisional of U.S. Pat. Appl. No. 11/187,107, filed on July 22, 2005, now U.S. Pat. No. 8,670,390, which claims priority to Provisional Appl. No. 60/598,187, filed August 2, 2004, all of which are hereby

Samsung Exhibit 1066, Page 47 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

incorporated by reference in their entireties and all of which this application claims priority under at least 35 U.S.C. 120 and/or any other applicable provision in Title 35 of the United States Code. --

Samsung Exhibit 1066, Page 48 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

CLAIMS

The following is a complete list of all claims in this application.

Claims 1 – 26 (Cancelled).

27. (Previously Presented) A method of wireless communication, comprising:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

28. (Previously Presented) The method of claim 27, wherein generating the OFDM signal comprises mapping the coded symbols to the plurality of OFDM subcarriers, wherein the plurality of OFDM subcarriers are assigned to a user device.

29. (Previously Presented) The method of claim 27, further comprising providing the OFDM signal with a cyclic prefix.

30. (Previously Presented) The method of claim 27, wherein the OFDM signal is an uplink signal.

31. (Previously Presented) The method of claim 27, further comprising performing pulse shaping on the OFDM signal or individual ones of the plurality of OFDM subcarriers.

Samsung Exhibit 1066, Page 49 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

32. (Previously Presented) The method of claim 27, wherein transform encoding spreads each data symbol with an orthogonal code vector obtained from a row or column of an orthogonal matrix.

33. (Previously Presented) The method of claim 27, wherein the transform encoding spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

34. (Previously Presented) The method of claim 1, wherein the transform encoding is applied according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

35. (Previously Presented) An apparatus for wireless communications, comprising:

an invertible transform configured to encode a set of data symbols into a set of coded symbols; and

an Inverse Fast Fourier Transform (IFFT) configured to operate on the coded symbols to generate an Orthogonal Frequency Division Multiplex (OFDM) signal;

wherein the invertible transform employs a Fourier transform and is configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

Samsung Exhibit 1066, Page 50 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

36. (Previously Presented) The apparatus of claim 36, wherein the invertible transform and the IFFT are configured to operate in a mobile transceiver.

37. (Previously Presented) The apparatus of claim 37, wherein the IFFT is configured to map the coded symbols to the plurality of OFDM subcarriers, and wherein the plurality of OFDM subcarriers are assigned to the mobile transceiver.

38. (Previously Presented) The apparatus of claim 36, further comprising a signal processor configured for providing the OFDM signal with a cyclic prefix.

39. (Previously Presented) The apparatus of claim 36, further comprising a pulse-shaping filter configured to pulse shape the OFDM signal or individual ones of the plurality of OFDM subcarriers.

40. (Previously Presented) The apparatus of claim 36, wherein the invertible transform spreads each data symbol with an orthogonal code vector obtained from a row or column of an orthogonal matrix.

41. (Previously Presented) The apparatus of claim 36, wherein the invertible transform spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

42. (Previously Presented) The apparatus of claim 36, wherein the invertible transform applies transform encoding according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

43. (Previously Presented) An apparatus for wireless communications, comprising:

a processor; and

a non-transitory computer-readable memory communicatively coupled to the processor, the memory including a set of instructions stored thereon and executable by the processor for:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

44. (Previously Presented) The apparatus of claim 43, wherein the processor and the non-transitory computer-readable memory are configured to operate in a mobile transceiver.

45. (Previously Presented) The apparatus of claim 43, wherein generating comprises performing an Inverse Fast Fourier Transform (IFFT) on the set of coded symbols to produce the OFDM signal.

46. (Previously Presented) The apparatus of claim 45, wherein the non-transitory computer-readable memory further comprises instructions for mapping the coded symbols to frequency bins in the IFFT, the frequency bins corresponding to OFDM subcarriers assigned to the mobile transceiver.

47. (Previously Presented) The apparatus of claim 43, wherein the non-transitory computer-readable memory further comprises instructions for providing the OFDM signal with a cyclic prefix.

Samsung Exhibit 1066, Page 52 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

48. (Previously Presented) The apparatus of claim 43, wherein the non-transitory computer-readable memory further comprises instructions for pulse-shaping the OFDM signal or individual ones of the plurality of OFDM subcarriers.

49. (Previously Presented) The apparatus of claim 43, wherein the transform encoding spreads each data symbol with an orthogonal code obtained from a row or column of an orthogonal matrix.

50. (Previously Presented) The apparatus of claim 43, wherein the transform encoding spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

51. (Previously Presented) The apparatus of claim 43, wherein the transform encoding is performed according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

52. (Previously Presented) A computer program product, comprising a computer readable hardware storage device having computer readable program code stored therein, said program code containing instructions executable by one or more processors of a computer system for:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

Samsung Exhibit 1066, Page 53 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

Samsung Exhibit 1066, Page 54 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

REMARKS

Claims 27 - 52 are currently pending in this application. Applicant respectfully contents that no issue of new matter has been added by this amendment.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully Submitted,

/Steven J Shattil/

Steven J Shattil
Reg. No. 65,170

Samsung Exhibit 1066, Page 55 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

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

Inventor Information:

Inventor 1 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Steve		Shattil	

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

City	Cheyenne	State/Province	WY	Country of Residence	US

Mailing Address of Inventor:

Address 1	PO Box 17355
Address 2	

City	Boulder	State/Province	CO
Postal Code	80308	Country	US

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

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	74284		
Email Address	genghiscomm@gmail.com	Add Email	Remove Email

Application Information:

Title of the Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING		
Attorney Docket Number	SA-005.US1	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	111	Suggested Figure for Publication (if any)	68

Filing By Reference :

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

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

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

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

Publication Information:

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

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

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	74284		

Domestic Benefit/National Stage Information:

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

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation in part of	16502723	2019-07-23
Prior Application Status	Patented		Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16502723	Continuation of	14789949	2015-07-01	10355720	2019-07-16

Prior Application Status	Patented	Remove

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14789949	Continuation in part of	13116984	2011-05-26	10014882	2018-07-03
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13116984	Continuation in part of	12328917	2008-12-05	7965761	2011-06-21
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
12328917	Division of	11621014	2007-01-08	7593449	2009-09-22
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
11621014	Division of	10131163	2002-04-24	7430257	2008-09-30

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

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

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

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

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

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

Applicant Information:

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

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Applicant 1 — Remove

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

Clear

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

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

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. ☒

Organization Name	Genghiscomm Holdings, LLC		
Mailing Address Information For Applicant:			
Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

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

Assignee Information including Non-Applicant Assignee Information:

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

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	SA-005.US1
	Application Number	
Title of Invention	MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING	

Organization Name	Genghiscomm Holdings, LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	PO Box 17355		
Address 2			
City	Boulder	**State/Province**	CO
Country i	US	Postal Code	80308
Phone Number	7202344351	Fax Number	
Email Address	genghiscomm@gmail.com		

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

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

Signature	/Steven J Shattil/			Date (YYYY-MM-DD)	2020-02-20
First Name	Steven	Last Name	Shattil	Registration Number	40170

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

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	Docket No.: SA-005.US1
Steve Shattil	Confirmation No.:
Application No.:	Group Art Unit:
Filed: Herewith	Examiner:

For: **MULTICARRIER SUB-LAYER FOR DIRECT SEQUENCE CHANNEL AND MULTIPLE-ACCESS CODING**

Commissioner for Patents
P.O. BOX 1700
Alexandria, VA 22313-1700

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, please amend the above-identified application as follows.

Amendments to the Specification begin on page 2.

Amendments to the Claims are reflected in the listing of claims which begins on page 3.

Remarks begin on page 9.

AMENDMENTS TO THE SPECIFICATION

Please REPLACE paragraph [001] of the specification with the following:

-- This application is a continuation of U.S. Pat. Appl. No. 16/502,723, filed July 3, 2019, which is a continuation of U.S. Pat. Appl. No. 14/789,949, filed July 1, 2015, now U.S. Pat. No. 10,355,720, which is a continuation-in-part of U.S. Pat. Appl. No. 13/116,984, filed May 26, 2011, now U.S. Pat. No. 10,014,882, which is a continuation-in-part of U.S. Patent Application No. 12/328,917, filed on December 5, 2008, now U.S. Patent No. 7,965,761, which is a divisional application of U.S. Patent Application No. 11/621,014, filed January 8, 2007, now U.S. Patent No. 7,593,449, which is a divisional application of U.S. Patent Application No. 10/131,163, filed April 24, 2002, now U.S. Patent No. 7,430,257. --

Samsung Exhibit 1066, Page 64 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

AMENDMENTS TO THE CLAIMS

Please **CANCEL** claims 1-26 without prejudice or disclaimer.

Please **ADD** new claims 27-52 as follows.

The following is a complete list of all claims in this application.

Claims 1 – 26 (Cancelled).

27. (New) A method of wireless communication, comprising:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

28. (New) The method of claim 27, wherein generating the OFDM signal comprises mapping the coded symbols to the plurality of OFDM subcarriers, wherein the plurality of OFDM subcarriers are assigned to a user device.

29. (New) The method of claim 27, further comprising providing the OFDM signal with a cyclic prefix.

30. (New) The method of claim 27, wherein the OFDM signal is an uplink signal.

Samsung Exhibit 1066, Page 65 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

31. (New) The method of claim 27, further comprising performing pulse shaping on the OFDM signal or individual ones of the plurality of OFDM subcarriers.

32. (New) The method of claim 27, wherein transform encoding spreads each data symbol with an orthogonal code vector obtained from a row or column of an orthogonal matrix.

33. (New) The method of claim 27, wherein the transform encoding spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

34. (New) The method of claim 1, wherein the transform encoding is applied according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

35. (New) An apparatus for wireless communications, comprising:

an invertible transform configured to encode a set of data symbols into a set of coded symbols; and

an Inverse Fast Fourier Transform (IFFT) configured to operate on the coded symbols to generate an Orthogonal Frequency Division Multiplex (OFDM) signal;

Samsung Exhibit 1066, Page 66 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

wherein the invertible transform employs a Fourier transform and is configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

36. (New) The apparatus of claim 36, wherein the invertible transform and the IFFT are configured to operate in a mobile transceiver.

37. (New) The apparatus of claim 37, wherein the IFFT is configured to map the coded symbols to the plurality of OFDM subcarriers, and wherein the plurality of OFDM subcarriers are assigned to the mobile transceiver.

38. (New) The apparatus of claim 36, further comprising a signal processor configured for providing the OFDM signal with a cyclic prefix.

39. (New) The apparatus of claim 36, further comprising a pulse-shaping filter configured to pulse shape the OFDM signal or individual ones of the plurality of OFDM subcarriers.

40. (New) The apparatus of claim 36, wherein the invertible transform spreads each data symbol with an orthogonal code vector obtained from a row or column of an orthogonal matrix.

41. (New) The apparatus of claim 36, wherein the invertible transform spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

42. (New) The apparatus of claim 36, wherein the invertible transform applies transform encoding according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

43. (New) An apparatus for wireless communications, comprising:

a processor; and

a non-transitory computer-readable memory communicatively coupled to the processor, the memory including a set of instructions stored thereon and executable by the processor for:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

44. (New) The apparatus of claim 43, wherein the processor and the non-transitory computer-readable memory are configured to operate in a mobile transceiver.

45. (New) The apparatus of claim 43, wherein generating comprises performing an Inverse Fast Fourier Transform (IFFT) on the set of coded symbols to produce the OFDM signal.

46. (New) The apparatus of claim 45, wherein the non-transitory computer-readable memory further comprises instructions for mapping the coded symbols to frequency bins in the IFFT, the frequency bins corresponding to OFDM subcarriers assigned to the mobile transceiver.

47. (New) The apparatus of claim 43, wherein the non-transitory computer-readable memory further comprises instructions for providing the OFDM signal with a cyclic prefix.

Samsung Exhibit 1066, Page 68 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

48. (New) The apparatus of claim 43, wherein the non-transitory computer-readable memory further comprises instructions for pulse-shaping the OFDM signal or individual ones of the plurality of OFDM subcarriers.

49. (New) The apparatus of claim 43, wherein the transform encoding spreads each data symbol with an orthogonal code obtained from a row or column of an orthogonal matrix.

50. (New) The apparatus of claim 43, wherein the transform encoding spreads each data symbol with one of a set of orthogonal codes $c(k)$ expressed by:

$$c(k) = \frac{1}{\sqrt{M}}\{e^{-j\frac{2\pi 0k}{M}}, e^{-j\frac{2\pi 1k}{M}}, \ldots, e^{-j\frac{2\pi(M-1)k}{M}}\}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; and k is a code index, wherein $0 \leq k \leq (M\text{-}1)$.

51. (New) The apparatus of claim 43, wherein the transform encoding is performed according to:

$$z(k) = \frac{1}{\sqrt{M}} \sum_{i=0}^{M-1} d(i) e^{-j\frac{2\pi ik}{M}}$$

where M is an assigned bandwidth for uplink transmission expressed as a number of subcarriers; i is an index, $0 \leq i \leq (M\text{-}1)$; k represents a frequency-domain index; $d(i)$ represents the data symbols; and $z(k)$ represents the coded symbols.

52. (New) A computer program product, comprising a computer readable hardware storage device having computer readable program code stored therein, said program code containing instructions executable by one or more processors of a computer system for:

transform encoding a set of data symbols into a set of coded symbols; and

generating an Orthogonal Frequency Division Multiplex (OFDM) signal comprising a plurality of OFDM subcarriers modulated with the coded symbols;

wherein the transform encoding employs a Fourier transform configured to reduce a Peak-to-Average-Power Ratio (PAPR) of the OFDM signal.

Samsung Exhibit 1066, Page 70 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790

REMARKS

By this amendment, claims 1-26 are cancelled and claims 27 - 52 are newly added. Accordingly, claims 27 - 52 are currently pending in this application. Applicant respectfully contents that no issue of new matter has been added by this amendment.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Reply is respectfully requested.

Respectfully Submitted,

/Steven J Shattil/

Steven J Shattil
Reg. No. 65,170

Samsung Exhibit 1066, Page 71 of 71
Samsung Electronics Co., Ltd. et al. v. Genghiscomm Holdings LLC
IPR2025-00790