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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/762,174	07/02/2024	Chen Chen	113666-794926	8560
169882	7590	09/24/2025	EXAMINER	
Polsinelli PC (SpaceX)			TRAN, KHANH C	
PO Box 140310				
Kansas City, MO 64114-0410				
			ART UNIT	PAPER NUMBER
			2631	
			NOTIFICATION DATE	DELIVERY MODE
			09/24/2025	ELECTRONIC

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

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

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

jmacalagay@polsinelli.com
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Office Action Summary	Application No. 18/762,174	Applicant(s) Chen et al.	
	Examiner KHANH C TRAN	Art Unit 2631	AIA (First Inventor to File) Status Yes

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

Period for Reply

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

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

Status

1) ☒ Responsive to communication(s) filed on 02 July 2024.

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

2a) ☐ This action is **FINAL**.

2b) ☒ This action is non-final.

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

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

Disposition of Claims*

5) ☒ Claim(s) 1-20 is/are pending in the application.

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

6) ☐ Claim(s) ____ is/are allowed.

7) ☒ Claim(s) 1-20 is/are rejected.

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

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

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

Application Papers

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

11) ☒ The drawing(s) filed on 02 July 2024 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

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

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

Priority under 35 U.S.C. § 119

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

Certified copies:

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

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

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

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

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

Attachment(s)

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

3) ☐ Interview Summary (PTO-413)

Paper No(s)/Mail Date ____.

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

4) ☐ Other: ____.

Paper No(s)/Mail Date ____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

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

2. The Preliminary Amendment filed 7/2/2024 has been considered and entered. Claims 1-20 are still pending in this Office action.

Claim Objections

3. ***Claim 12 is objected to because of the following informalities: in line 3, "the de-shifted uplink signal" should be changed to -- the de-shifted reference-location-compensated uplink signal --. Appropriate correction is required.***

4. ***Claim 15 is objected to because of the following informalities: in line 3, "the de-shifted uplink signal" should be changed to -- the de-shifted reference-location-compensated uplink signal --. Appropriate correction is required.***

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claim 1 recites the limitation "the reference-location-compensated uplink signal" in line 13; the limitation "the reference location" in line 14.** There is insufficient antecedent basis for this limitation in the claim.

Examiner's comment:

The limitation "the reference-location-compensated uplink signal" in line 13 is not mentioned previously.

The limitation "the reference location" in line 14 is not mentioned previously. In para. [0006], the original disclosure refers the reference location as a regional reference location. It is not clear that the limitation "the reference location" in line 14 refers to a regional reference location or a cell reference location.

6. **Claims 2-16 are also rejected because of dependency on rejected independent claim 1.**

7. **Claim 17 recites the limitation "the reference-location-compensated uplink signal" in line 13; the limitation "the reference location" in line 14.** There is insufficient antecedent basis for this limitation in the claim.

Examiner's comment:

The limitation "the reference-location-compensated uplink signal" in line 13 is not mentioned previously.

The limitation "the reference location" in line 14 is not mentioned previously. In para. [0006], the original disclosure refers the reference location as a regional reference location. It is not clear that the limitation "the reference location" in line 14 refers to a regional reference location or a cell reference location.

8. Claims 18-20 are also rejected because of dependency on rejected independent claim 17.

Conclusion

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

Leng U.S. Patent Application Publication No. US 2022/0046566 A1 discloses "Uplink Timing and Frequency Synchronization".

Buer et al. U.S. Patent Application Publication No. US 2018/0019811 A1 discloses "Uplink Timing and Frequency Synchronization".

Michaels U.S. Patent Application Publication No. US 2018/0241464 A1 discloses "Mobile Satellite Communication System".

Churan U.S. Patent Application Publication No. US 2007/0233383 A1 discloses

“Network-Assisted Global Positioning Systems, Methods and Terminals Including Doppler Shift and Code Phase Estimates”.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH C TRAN whose telephone number is (571) 272-3007. The examiner can normally be reached Full Time Increase Flex Program.

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, Hannah S. Wang can be reached at 571-272-9018. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KCT

***/KHANH C TRAN/
Primary Examiner, Art Unit 2631***