

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Intel Corporation,
Petitioner

v.

Greenthread, LLC,
Patent Owner

U.S. PATENT NO. 11,121,222

Case Nos.
IPR2023-00420, IPR2023-00552

**PETITIONER'S RANKING AND EXPLANATION OF PARALLEL
PETITIONS CHALLENGING U.S. PATENT NO. 11,121,222**

Petitioner Intel Corporation (“Petitioner”) hereby respectfully submits this Paper (“Ranking Memo”) in support of its two petitions for *inter partes* review of claims 1-9, 13-18, 20-28, 32-36, 38-42, and 44 of U.S. Patent No. 11,121,222 (“’222 Patent”) owned by Greenthread, LLC (“Patent Owner”).

Petitioner has filed two petitions for *inter partes* review of the ’222 Patent: a first petition (IPR2023-00420, filed December 28, 2022) (“Petition I”) challenging 33 claims (claims 1-9, 13-18, 20-28, 32-36, and 38-42), and a second petition (IPR2023-00552, filed concurrently with this Ranking Memo on January 31, 2023) (“Petition II”) challenging claim 44.

I. MATERIAL DIFFERENCES BETWEEN THE PETITIONS

Because of the significant differences in claim scope between the challenged claims of Petition I and claim 44 challenged in Petition II, different prior art and prior art grounds are used in the two petitions, as set forth in the table below.

Petition	Claims	Ground
Petition I: IPR2023-00420	1-9, 13-14, 16-18, 20-21, 23-28, 32-36, and 38-42	Ground I: §103 over Kawagoe
	1-2, 4-9, 13-18, 20-23, 25-28, 32-36, and 38-42	Ground II: §103 over Wieczorek in combination with Wolf
	1-9, 13-14, 16-18, 20-21, 23-28, 32-36, and 38-42	Ground III: §103 over Kawagoe in view of Gupta
	1-2, 4-9, 13-18, 20-23, 25-28, 32-36, and 38-42	Ground IV: §103 over Wieczorek in combination

Explanation and Ranking for Petitions for *Inter Partes* Review of U.S. Patent No. 11,121,222

		with Wolf, in further view of Gupta
Petition II: IPR2023-00552	44	Ground I: §103 over Payne
	44	Ground II: §103 over Sakai in combination with Kawagoe

The material differences between the two petitions lie in (i) their mutually exclusive claim sets, (ii) the significant differences in claim scope between claims of the two claim sets, and (iii) the use of different prior art and prior art combinations to better address the difference in claim scope. Notably, Petition II’s lone challenged claim 44 claims a “surface layer,” a “single drift layer,” and “at least one well region disposed in the single drift layer,” which are not claimed in Petition I’s challenged claims. The primary references used in Petition II (Payne and Sakai) disclose CMOS devices with nested well structures, whereby shallow wells are disposed in deep wells, to properly address the claimed “single drift layer” and “well region disposed in the single drift layer” unique to claim 44. Payne and Sakai are not used in Petition I because Petition I’s challenged claims do not claim those nested structures.

Petitioner presented separate Grounds I and II in Petition I to address claims in each ground that are not addressed in the other. Additionally, Wiczorek is not prior art under 35 U.S.C. §102(b) so Patent Owner could potentially swear behind

it. In addition, in contrast to Petition II's challenged claim 44, the claims challenged in Petition I recite "transistors" and/or "devices" in plural, suggesting that Patent Owner may potentially argue that the prior art must disclose multiple devices to satisfy the claims. Gupta is used in Grounds III and IV of Petition I to address that possibility. In short, two petitions are required because all 34 claims cannot be effectively challenged in a single 14,000-word petition.

II. THE BOARD SHOULD EXERCISE ITS DISCRETION TO INSTITUTE BOTH PETITIONS

Petitioner respectfully requests that the Board exercise its discretion to institute both Petition I and Petition II. **First**, Petitioner filed two petitions to adequately address all 34 challenged claims within the statutory word limits for petitions. *See Microsoft Corp. v. IPA Techs. Inc.*, No. IPR2019-00810, Paper 12 at 13-14 (Oct. 16, 2019) (finding multiple petitions reasonable when "[f]aced with word count limitations and a large number of challenged claims"). Notably, the number of challenged claims in the instant petitions is over twice the average. *See* "PTAB Trial Statistics," United States Patent and Trademark Office, https://www.uspto.gov/sites/default/files/documents/ptab__aia_fy2022_roundup.pdf (last visited Jan. 31, 2023), at 4, 14 (indicating an average of 15 challenged claims per IPR, PGR, and CBM petition).

Second, instituting both petitions will not unduly burden the Board or Patent

Owner. Although the necessary arguments and explanation for all 34 claims cannot be reasonably covered in a single petition, the Board and parties can obtain efficiencies by holding a single oral argument and consolidating depositions between the proceedings.

III. RANKING OF PETITIONS

Petitioner requests that the Board consider the merits and institute both petitions because the petitions challenge different claim sets using different prior art grounds to better address the claim differences. Pursuant to the Board's direction to rank the petitions, however, Petitioner asks the Board to consider the merits of each petition beginning with Petition I followed by Petition II.

Dated: January 31, 2023

Respectfully submitted,

/s/ Robert A. Appleby, P.C.
Robert A. Appleby, P.C.
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Reg. No. 40,897

**CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105**

I hereby certify that on January 31, 2023, I caused a true and correct copy of the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 11,121,222 and supporting exhibits to be served via express mail on the Patent Owner at the following correspondence address of record as listed on the USPTO Patent Center

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A courtesy copy was also served via electronic mail on Patent Owner's counsel of record in District of Oregon litigation:

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Dated: January 31, 2023

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