

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NXP SEMICONDUCTORS N.V.,
Petitioner,

v.

HARBOR ISLAND DYNAMIC, LLC,
Patent Owner.

IPR2025-00954
Patent 7,745,886 B2

Before HYUN J. JUNG, GREGG I. ANDERSON, and
ARTHUR M. PESLAK, *Administrative Patent Judges*.

ANDERSON, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314
Granting Motion for Joinder
35 U.S.C. § 315(c); 37 C.F.R. § 42.122

I. INTRODUCTION

NXP Semiconductors N.V. (“Petitioner” or “Joining Petitioner”) requests *inter partes* review of claims 1–19 of U.S. Patent No. 7,745,886 B2 (“the ’886 patent,” Ex. 1001). Paper 1 (“Pet.”). Harbor Island Dynamic, LLC (“Patent Owner”) did not file a Preliminary Response.

Concurrently with the Petition, Petitioner filed a Motion for Joinder (Paper 3, “Mot.”) seeking joinder as a party to *Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. v. Harbor Island Dynamic, LLC*, IPR2024-01402 (“the Samsung IPR”), which the Board instituted on April 4, 2025. Paper 3 (“Mot.”). Patent Owner did not respond to Petitioner’s Motion for Joinder.

We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” We also have authority to consider Petitioner’s Motion for Joinder. See 35 U.S.C. § 315(c); 37 C.F.R. § 42.122.

Based on the current record and for the reasons explained below, we (1) institute an *inter partes* review of claims 1–19 of the ’886 patent on all challenges in the Petition; and (2) grant Petitioner’s Motion for Joinder subject to the conditions detailed below.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies NXP Semiconductors N.V., NXP B.V., NXP Semiconductors (Shanghai) Co. Ltd., NXP Semiconductors (Tianjin) Ltd., NXP India Pvt. Ltd., NXP Japan Ltd., NXP Semiconductors Korea Ltd.,

NXP Semiconductors Singapore Pte. Ltd., NXP Manufacturing (Thailand) Ltd., and NXP Semiconductors Taiwan Ltd. as real parties in interest. Pet. 86. Patent Owner identifies itself (Harbor Island Dynamic, LLC.) as the real party in interest. Paper 5 (Patent Owner's Mandatory Notices), 2.

B. Related Matters

In addition to the Samsung IPR identified above, both parties assert that the '886 patent has been asserted by Patent Owner in the following district court lawsuits: *Harbor Island Dynamic, LLC v. Samsung Electronics Co., Ltd.*, Case No. 2:24-cv-00140-JRG-RSP (E.D. Tex.) and *Harbor Island Dynamic, LLC v. NXP Semiconductors N.V., NXP B.V., NXP Semiconductors (Shanghai) Co. Ltd., NXP Semiconductors (Tianjin) Ltd., NXP India Pvt. Ltd., NXP Japan Ltd., NXP Semiconductors Korea Ltd., NXP Semiconductors Singapore Pte. Ltd., NXP Manufacturing (Thailand) Ltd., and NXP Semiconductors Taiwan Ltd.*, Case No. 2:24-cv-00717-JRG-RSP (E.D. Tex.). Pet. 87; Paper 5, 2.

C. Prior Art and Asserted Grounds

Petitioner's grounds rely on the following prior art references:

Name	Reference	Exhibit No.
Yu	U.S. Pat. 6,737,682 B1, iss. May 18, 2004	1005
Okashita	U.S. Pat. 6,836,172 B2, iss. Dec. 28, 2004	1004
Burgener	U.S. Pat. App. Pub. 2006/0270367 A1, pub. Nov. 30, 2006	1006

Petitioner asserts that the challenged claims would have been unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 2, 4, 5	102	Okashita

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–7	103	Okashita
1–7	103	Okashita, Yu
1–3	103	Yu
1–19	103	Burgener, Okashita
1–19	103	Burgener, Okashita, Yu

D. Overview of the '886 Patent

The '886 patent is directed to a circuit for correcting distortion of radio signals, in particular:

a switching circuit including a number of transistors fabricated in a device layer situated over a buried oxide layer and a bulk semiconductor layer. Each transistor has a source/drain junction that does not contact the buried oxide layer, thus forming a source/drain junction capacitance. The disclosed switching circuit also includes at least one trench extending through the device layer and contacting a top surface of the buried oxide layer, thus electrically isolating at least one of the transistors in the switching circuit so as to reduce voltage and current fluctuations in the device layer. The disclosed switching circuit may be coupled to a power amplifier or a low noise amplifier and an antenna in a wireless communications device, and be controlled by a switch control signal in the wireless communications device.

Ex. 1001, code (57).

E. Challenged Claims

Claims 1–19 are challenged. Claims 1, 12, and 16 are independent. Claim 1 is reproduced below.

1. A switching circuit comprising:

a plurality of cascaded transistors fabricated in a device layer situated over a buried oxide layer and a bulk semiconductor layer;

each of said plurality of cascaded transistors having a source/drain junction that does not contact said buried oxide layer, thereby forming a source/drain junction capacitance;

at least one trench extending through said device layer and contacting a top surface of said buried oxide layer, thereby electrically isolating at least one of said plurality of cascaded transistors in said switching circuit so as to reduce voltage and current fluctuations in said device layer.

The issues raised by the parties at this time are limited to elements recited in claim 1. At a high level, claim 1 is directed to a switching circuit made of three layers. A device layer contains the transistors of the switching circuit situated over a buried oxide layer and a bulk semiconductor layer. The issues raised involve the requirements of claim 1 for: (1) a plurality of cascaded transistors, (2) each of the cascaded transistors to have a source/drain junction that does not contact the buried oxide layer, and (3) at least one trench extending through the device layer and contacting the buried oxide layer.

F. Statutory and Regulatory Provisions

Joinder in an *inter partes* review is permitted under § 315(c) as follows:

If the Director institutes an inter partes review, the Director, in his or her discretion, may join as a party to that inter partes review any person who properly files a petition under section 311 that the Director, after receiving a preliminary response under section 313 or the expiration of the time for filing such a response, determines warrants the institution of an inter partes review under section 314.

35 U.S.C. § 315(c).

Regarding timeliness, a petition for an *inter partes* review must be filed no later than “1 year after the date on which the petitioner, real party in

interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b); *see also* 37 C.F.R. § 42.101(b). This one-year time bar, however, does not apply to a request for joinder under § 315(c). *See* 35 U.S.C. § 315(b); 37 C.F.R. § 42.122(b). Instead, “[a]ny request for joinder must be filed . . . no later than one month after the institution date of any *inter partes* review for which joinder is requested.” 37 C.F.R. § 42.122(b).

G. Whether the Petition Warrants Institution

1. The “Reasonable Likelihood” Standard for Instituting Trial

In the Samsung IPR, we determined that Petitioner Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. (collectively “Samsung”) satisfied the “reasonable likelihood” standard for instituting trial. *See* Samsung IPR, Paper 9 (“Samsung Inst. Dec.”) at 13–27.

Here, Petitioner presents substantively identical challenges to claims 1–19 of the ’886 patent based on the same prior art, the same evidence, and the same unpatentability theories as the Samsung IPR. *Compare* Pet. 6–86, *with* Samsung IPR, Paper 1 (“Samsung Pet.”) 7–85; *see also* Mot. 1 (asserting that this “Petition is substantively identical to the petition and expert declaration submitted in the Samsung IPR, and both are supported by the same declaration. Petitioner here asserts that the same claims are obvious over the same prior art based on the same arguments supported by the same expert as in the Samsung IPR.”).

Because Petitioner presents substantively identical challenges to claims 1–19 of the ’886 patent based on the same prior art, evidence, and unpatentability theories in the Samsung IPR, Petitioner satisfies the “reasonable likelihood” standard for instituting trial for the same reasons

the “reasonable likelihood” standard for instituting trial was satisfied in the Samsung IPR. *See* Samsung IPR Inst. Dec. 14–27.

2. *Timeliness*

As discussed above, “[a]ny request for joinder must be filed . . . no later than one month after the institution date of any *inter partes* review for which joinder is requested.” 37 C.F.R. § 42.122(b). We instituted an *inter partes* review in the Samsung IPR on April 4, 2025. *See* Samsung IPR Inst. Dec. 1. Petitioner filed the Petition and Motion for Joinder on May 2, 2025. *See* P-TACTS, Filing Date Papers 1 (Pet.), 3 (Mot.). Under 37 C.F.R. § 42.122(b), Petitioner timely filed the Petition and Motion for Joinder.

3. *Conclusion Whether the Petition Warrants Institution*

Because Petitioner (1) satisfies the “reasonable likelihood” standard for instituting trial; and (2) timely filed the Petition and the Motion for Joinder, the Petition warrants the institution of an *inter partes* review.

H. *Whether to Grant Petitioner’s Motion for Joinder*

In considering a joinder motion, we consider factors including the reasons joinder is appropriate; whether there are any new grounds of unpatentability asserted in the petition; and whether joinder would impact the trial schedule for the existing review. *See, e.g., Kyocera Corp. v. SoftView LLC*, IPR2013-00004, Paper 15 at 4 (PTAB Apr. 24, 2013).

Here, Petitioner asserts that joinder is appropriate because the “Petition is substantively identical to the petition and expert declaration submitted in the Samsung IPR, and both are supported by the same declaration. Petitioner here asserts that the same claims are obvious over the same prior art based on the same arguments supported by the same expert as in the Samsung IPR.” Mot. 1.

Petitioner argues it will

take an “understudy” role if joined. Joinder will not cause any delay in the resolution of the Samsung IPR. Joinder, therefore, is appropriate because it will resolve the same patentability issues of the same patent, it will not delay the schedule that the Board has issued in the Samsung IPR, and the parties in the Samsung IPR will not be prejudiced.

Mot. 1.

Petitioner also alleges that that the Petition does not “propose any new grounds of unpatentability.” Mot. 4. Petitioner argues “the Petition and the Samsung IPR petition rely on the same declaration of Scott Emmet Thompson, Ph.D. The arguments in both petitions are identical; there are no new arguments or grounds of unpatentability asserted in the Petition.” *Id.*

If joined to the Samsung IPR, Petitioner agrees that it “will not request any alterations to the trial schedule that the Board issued in the Samsung IPR (IPR2024-01402, Paper 10), leaving that schedule unchanged.” Mot. 5. Petitioner also stipulates that it will “adopt a secondary ‘understudy’ role in the Samsung IPR.” *Id.* Furthermore, “Petitioner will assume a primary role only if the Samsung IPR petitioner ceases its participation in that proceeding.” *Id.*

Petitioner alleges that “[c]ounsel for the Samsung IPR petitioner indicated that the Samsung IPR petitioners will not oppose this motion.” Mot. 5. Petitioner also alleges “[c]ounsel for Patent Owner indicates that it intends to oppose this motion.” *Id.* As noted above, Patent Owner has not opposed the Motion.

For the reasons stated by Petitioner in the Motion, and in the absence of any opposition by Patent Owner, we agree that Petitioner’s joinder to the

Samsung IPR is appropriate and will not materially affect the trial schedule for the Samsung IPR. *See* Mot. 6.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted based on all grounds asserted in the Petition;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision;

FURTHER ORDERED that Petitioner's Motion for Joinder (Paper 3) is granted, and Petitioner is hereby joined as a petitioner in IPR2024-01402;

FURTHER ORDERED that the Scheduling Order entered in IPR2024-01402 (Paper 10), including any schedule changes allowed by the Scheduling Order and agreed to by the original parties in that proceeding, shall continue to govern the trial schedule in IPR2025-00954;

FURTHER ORDERED that Petitioner's role in IPR2024-01402 shall be limited as stated in Petitioner's Motion for Joinder (Paper 3) unless and until Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. are terminated from IPR2024-01402;

FURTHER ORDERED that the case caption in IPR2024-01402 shall be changed to reflect joinder of NXP Semiconductors N.V. as petitioner according to the attached example;

FURTHER ORDERED that a copy of this decision be entered into the record of IPR2025-00954; and

FURTHER ORDERED that all further filings shall be made in IPR2024-01402.

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Patent 7,745,886 B2

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[EXAMPLE CASE CAPTION]

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC., NXP
SEMICONDUCTORE, N. V.¹

Petitioner,

v.

HARBOR ISLAND DYNAMIC, LLC,
Patent Owner.

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¹ NXP Semiconductors N.V. filed a petition and a motion for joinder in IPR2025-00954 that were granted and have been joined as petitioners in this proceeding.