

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

QORVO, INC.,
Petitioner,

v.

CORNELL RESEARCH FOUNDATION INC.,
Patent Owner.

IPR2024-00758
Patent 7,250,360 B2

Before KIMBERLY McGRAW, JULIA HEANEY, and
MICHAEL G. McMANUS, *Administrative Patent Judges*.

McGRAW, *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

Qorvo, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–24 of U.S. Patent No. 7,250,360 B2 (Ex. 1001, “the ’360 patent”). Petitioner filed, concurrently with the Petition, a Contingent Motion for Joinder requesting to be joined with any *inter partes* review that is instituted with respect to the ’360 patent in *IQR PLC v. Cornell Research Foundation Inc.*, IPR2024-00609 (the “IQE IPR”).¹ Paper 3 (“Mot.” or “Motion”). Cornell Research Foundation Inc. (“Patent Owner”) filed a Response to Petitioner’s Contingent Motion. Paper 7 (“Opp”). Patent Owner also filed a Preliminary Response to the Petition (Paper 8, “Prelim. Resp.”). With our authorization, Petitioner filed a Reply to the Preliminary Response (Paper 10, “Prelim. Reply”).

An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

For the reasons discussed below, we institute an *inter partes* review as to all of the challenged claims of the ’360 patent on all grounds of unpatentability set forth in the Petition. We also grant Petitioner’s Motion for Joinder.

A. Related Proceedings

The parties identify *Akoustis Technologies, Inc. et al. v. Qorvo, Inc.*, Case No. 2:23-cv-00180 (E.D. Tex.), filed April 20, 2023 (the “Akoustis-Qorvo litigation”) and *IQE PLC v. Cornell Research Foundation, Inc.*,

¹ We granted institution of the IQE IPR on September 13, 2024. IPR2023-00609, Paper 9 (PTAB Sept. 13, 2024).

IPR2024-00609, filed March 1, 2024 as related matters. Pet. 2–3; Paper 5 (Patent Owner Mandatory Notices), 2. Patent Owner also identifies *IQE KC, LLC v. Akoustis Technologies, Inc.*, 1:24-mc-91053-AK (D. Mass.) as a proceeding involving a motion to quash a subpoena issued from the Akoustis-Qorvo litigation. Paper 5, 2.

B. Real Parties-In-Interest

Petitioner identifies itself as the real party-in-interest. Pet. 2. Patent Owner identifies Cornell Research Foundation, Inc. as the real-party-in interest and further identifies Akoustis Technologies, Inc. as the exclusive licensee of the '360 patent. Paper 5, 2.

C. The '360 Patent

The '360 patent, titled “Single Step, High Temperature Nucleation Process for a Lattice Mismatched Substrate,” relates to “a single step process for the nucleation and subsequent epitaxial growth on a lattice mismatched substrate.” Ex. 1001, code (54), 1:17–19. According to the '360 patent, there are applications for a “lattice mismatched substrate having an epitaxial nitride based material, such as (Al)GaN” “in the areas of high power, high frequency electronics, short wavelength optoelectronics, biology, and micromachining technologies.” *Id.* at 3:43–47. But, the '360 patent observes, “[h]eteroepitaxial growth of GaN and related alloys on severely mismatched substrates such as sapphire, SiC and silicon requires thin nucleation layers to provide nucleation sites to initiate crystal growth.” *Id.* at 1:21–24. The single step approach described in the '360 patent “is a single flow, single pressure, high temperature process” that “involves a surface treatment prior to epitaxial growth that allows complete coalescence of the epitaxial film within the first 200 Å of growth.” *Id.* at 2:3–7. This

“eliminates the large temperature ramps and complex flow requirements of the commonly used two-step nucleation technologies.” *Id.* at 2:7–9.

In one embodiment, a surface of a lattice mismatched substrate, such as silicon, sapphire, or SiC, is pre-treated with at least one group III reactant or group II reactant, prior to the introduction of a group V or group VI reactant, respectively. Ex. 1001, 2:25–33. Preferably, group III includes gallium, aluminum, boron, and indium reactants, while group II includes cadmium and zinc reactants. *Id.* at 2:36–38, 2:45–46. More specifically, at least one of the group III or group II reactants “is introduced into a growth chamber at an elevated growth temperature to pre-treat the surface of the substrate prior to any actual crystal growth.” *Id.* at 2:47–50. “Once the pre-treatment is complete, the group V reactant or the group VI reactant is introduced to begin the growth of the nucleation layer.” *Id.* at 2:56–58. Preferably, group V includes nitrogen, arsenic, and phosphorus reactants, while group VI includes tellurium and sulfur reactants. *Id.* at 2:59–60, 2:65–67. “After the nucleation layer is formed, a buffer layer is formed on the nucleation layer,” which “provides a surface upon which the epitaxial layer is grown.” *Id.* at 2:67–3:1.

The ’360 patent describes that preferred III-V and II-VI compounds for the nucleation layer include “AlN, GaN, AlGa_N, BGaN, BInN, CdTe, and ZnS.” Ex. 1001, 3:4–6. Figure 1 of the ’360 patent, reproduced below, shows “a schematic representation of a single step process for nucleation and subsequent growth of a preferred GaN-based material,” with “[r]elative reactant fluxes and exposure cycles . . . depicted for the surface pre-treatment, the AlN/AlGa_N nucleation layer, and the transition to GaN epitaxial growth on both sapphire and SiC substrates.” *Id.* at 3:51–56.

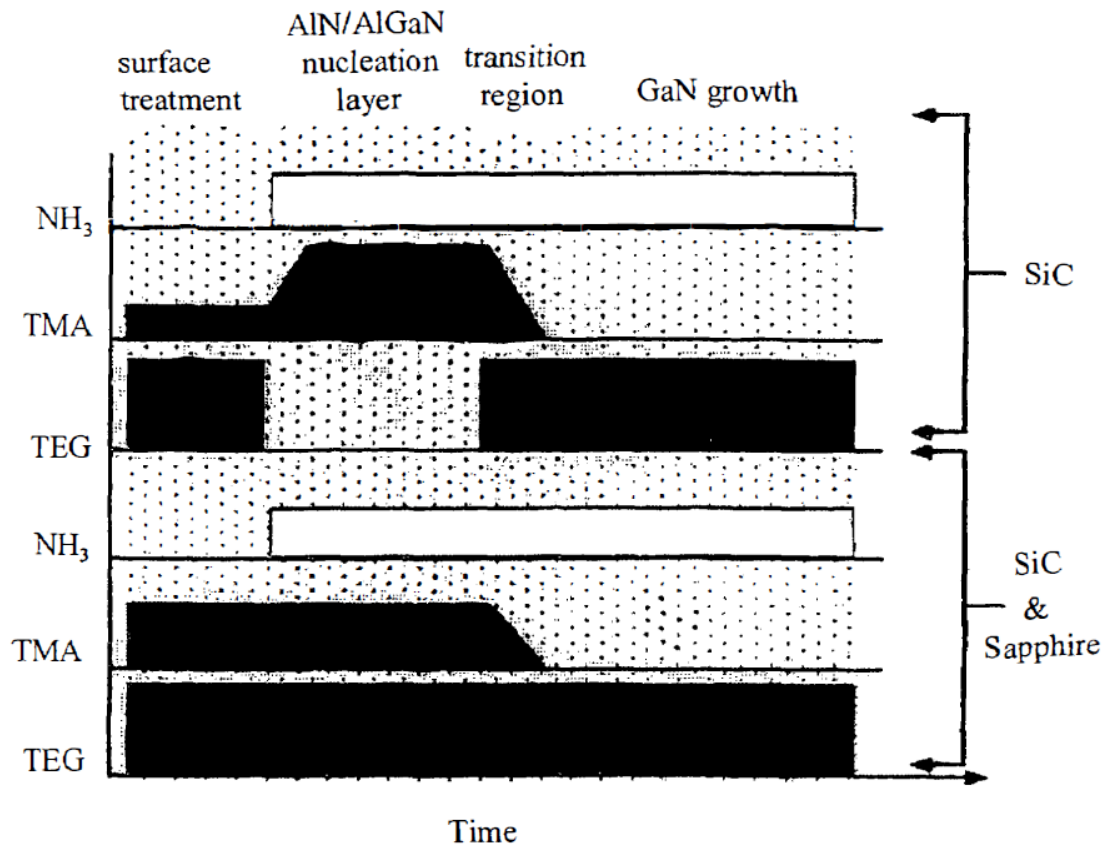


FIG. 1

In the process shown in Figure 1, after heating the substrates to 1100 °C in hydrogen for 10 minutes for cleaning, the temperature is decreased to 1040 °C . *Id.* at 3:59–64. Aluminum and gallium reactants, preferably TEG (triethylgallium) and TMA (trimethylaluminum), are introduced into the growth chamber for 100 seconds. *Id.* at 3:65–4:3. Next, ammonia is switched into the chamber to form Al_xGa_{1-x}N on the substrate. *Id.* at 4:4–7. If not already present, the gallium reactant is switched into the chamber, for example, if the nucleation layer is comprised of AlN. *Id.* at 4:8–10. The aluminum reactant is then ramped down and switched out of the chamber after 30 seconds, resulting “in GaN deposition, providing a buffer layer on

which other GaN-based epitaxial layers can subsequently be deposited without any change in growth chamber temperature.” *Id.* at 4:11–16.

D. Illustrative Claim

Of the challenged claims, claims 1 and 18 are independent.

Claim 1 is reproduced below.

1. A process for growing an epitaxial layer on a lattice mismatched substrate comprising the steps of:

- a) providing a substrate;
- b) pre-treating a surface of the substrate with at least one group III reactant or at least one group II reactant at an elevated growth temperature prior to introducing a group V reactant or a group VI reactant;
- c) introducing a group V reactant or a group VI reactant to grow a nucleation layer on the surface of the substrate; and
- d) growing a buffer layer on said nucleation layer, said buffer layer providing a surface upon which said epitaxial layer is grown.

Ex. 1001, 5:2–14.

E. The Asserted Grounds of Unpatentability

Petitioner contends claims 1–24 of the ’360 patent are unpatentable on the following grounds. Pet. 5.

Ground	Reference(s)	35 U.S.C. §	Claims Challenged
1	Urashima ²	103(a) ³	1–4, 6–14

² Urashima et al., U.S. Patent Appl. Pub. No. 2002/0155712 A1 (published Oct. 24, 2002) (Ex. 1004, “Urashima”).

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), amended 35 U.S.C. § 103 effective March 16, 2013. Because the application giving rise to the ’360 patent was filed before that date, the pre-AIA version of §§ 102 and 103 applies. *See* Ex. 1001, code (22).

Ground	Reference(s)	35 U.S.C. §	Claims Challenged
2	Urashima, Nagata ⁴	103(a)	5, 17
3	Urashima, Keiper ⁵	103(a)	15, 16
4	Urashima, Manabe ⁶	103(a)	18–24
5	Guo ⁷	103(a)	1–4, 6–9, 11–14
6	Guo, Ashby ⁸	103(a)	5, 10, 17

In support of its unpatentability arguments, Petitioner relies on the declaration of Dr. Stanley Shanfield (Ex. 1003 “Shanfield Declaration”).

II. REQUEST FOR DISCRETIONARY DENIAL—35 U.S.C. § 314(a)
FINTIV

Patent Owner argues that we should exercise discretion to deny institution under 35 U.S.C. § 314(a) in view of the *Akoustis-Qorvo* litigation currently pending in the Eastern District of Texas involving the ’360 patent, Petitioner Qorvo and Akoustis, the exclusive licensee of Patent Owner. *See* Prelim. Resp. 20–28. Patent Owner asserts that the issues presented by the

⁴ Nagata et al., Japanese Patent App. Pub. No. H5-63305 (published Mar. 12, 1993) (Ex. 1005, “Nagata” (pp. 1–8, certified English translation; pp. 9–15, foreign language original)). Unless otherwise indicated, all citations are to the English translation.

⁵ Keiper et al., *Metal organic vapour-phase epitaxy (MOVPE) growth of InP and InGaAs using tertiarybutylarsine (TBA) and tertiarybutylphosphine (TBP) in N₂ ambient*, J. of Crystal Growth 256–262, Vol. 204, No. 3 (1999) (Ex. 1006, “Keiper”).

⁶ Manabe et al., U.S. Patent No. 5,122,845 (issued June 16, 1992) (Ex. 1007, “Manabe”).

⁷ Guo et al., U.S. Patent App. Pub. No. 2004/0119063 A1 (published June 24, 2004) (Ex. 1008, “Guo”).

⁸ Ashby et al., U.S. Patent App. Pub. No. 2002/0090816 A1 (published July 11, 2002) (Ex. 1009, “Ashby”).

Petition will be resolved in the *Akoustis-Qorvo* litigation months before any Final Written Decision would issue in the present proceeding. *See* Prelim. Resp. 20.

The Board has held that the advanced state of a parallel district court action is a factor that may weigh in favor of denying a petition under 35 U.S.C. § 314(a). *See NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential); Patent Trial and Appeal Board Consolidated Trial Practice Guide (Nov. 2019), 58 & n.2, *available at* <https://www.uspto.gov/TrialPracticeGuideConsolidated> (“Trial Practice Guide”). We consider the following nonexclusive factors to assess “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding”:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Apple Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 at 5–6 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”). These factors “relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Fintiv*, IPR2020-

00019, Paper 11 at 6. *Fintiv* further instructs that the Board should take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.*; see Trial Practice Guide at 55–56, 58.

The Director has issued additional guidance on the application of *Fintiv*. See USPTO Memorandum, *Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation* (June 21, 2022) (“*Fintiv* Memo”).⁹ The *Fintiv* Memo instructs that “the PTAB will not discretionarily deny institution in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.” *Id.* at 3 (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A)); see *id.* at 7, 9. The *Fintiv* Memo also explains that such a stipulation (a *Sotera* stipulation) “mitigates concerns of potentially conflicting decisions and duplicative efforts between the district court and the PTAB.” *Id.* at 7.

Petitioner presents a *Sotera* stipulation in the present Petition. See Pet. 70. Specifically, Petitioner stipulates that it will not pursue invalidity of the Challenged Claims (i.e., all claims of the ’360 patent) in the *Akoustis-Qorvo* litigation on the grounds raised, or that reasonably could have been raised, in this IPR Petition. *Id.*

Patent Owner does not dispute that Petitioner presents a *Sotera* stipulation in the present Petition. See, e.g., Prelim. Resp. Instead, Patent

⁹ The *Fintiv* Memo is available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621.pdf

Owner asserts that because Petitioner Qorvo has filed a motion to join the IQE IPR, and the petitioner in that proceeding (i.e., IQE) did not file a *Sotera* stipulation,¹⁰ it is unclear whether Qorvo's stipulation would apply or provide any real benefit if Qorvo's joinder motion is granted. *Id.* at 2; *see also id.* at 27 (stating that Petitioner's "*Sotera* stipulation does not eliminate overlap in these specific circumstances"). More particularly, Patent Owner contends that:

Petitioner has stipulated that "if the Board institutes ***this Petition***, Petitioner will not pursue invalidity of the Challenged Claims in the Akoustis-Qorvo litigation on the grounds raised, or that reasonably could have been raised, ***in this IPR Petition.***" Pet. 70 (emphases added). But Petitioner has sought to join the largely identical IQE IPR proceedings if that IPR is instituted. Paper 3. If Petitioner is joined in that matter (which does not include a *Sotera* stipulation and for which institution should also be denied), it is unclear that its stipulation that is specific to "this IPR Petition" would indeed bar Petitioner from re-raising the same art in the district court case. Petitioner's stipulation should thus not be seen as dispositive in this matter and because Petitioner asserts that same art the factor should weigh in favor of denial.

Prelim. Resp. 27 (emphasis added by Patent Owner).

Patent Owner's arguments appear to be based on the premise that Qorvo's stipulation (i.e., Qorvo will not pursue invalidity of the Challenged Claims in the *Akoustis-Qorvo* litigation on the grounds raised, or that reasonably could have been raised, in this Petition if this Petition is granted) would somehow not apply if this Petition is granted and Qorvo is then joined

¹⁰ While not as broad as a *Sotera* stipulation, IQE did stipulate in its petition in the IQE IPR that, in the event its petition is instituted, IQE would not raise in any future litigation that might be brought by Patent Owner or Akoustis involving the '360 patent, any invalidity challenges based on the prior art asserted in the IQE IPR. IQE IPR, Paper 1 (IQE Petition) at 74.

to the IQE IPR. Patent Owner, however, does not explain why joining Qorvo to the IQE IPR — which Patent Owner acknowledges is based on a petition that is substantially identical to the present Petition — would impact Qorvo’s stipulation.

Patent Owner argues that IQE did not make a *Sotera* stipulation. However, IQE is not a party to the *Akoustis-Qorvo* litigation, and therefore, as a non-party cannot pursue any invalidity challenges in that litigation. Indeed, the Board is not aware of any district court litigation in which IQE has been charged with infringing the ’360 patent. Patent Owner does not explain why IQE’s failure to file a *Sotera* stipulation applicable to the *Akoustis-Qorvo* litigation, to which IQE is not a party, would impact Qorvo’s stipulation, which applies to the *Akoustis-Qorvo* litigation. As such, we disagree with Patent Owner’s argument that if Qorvo is joined as a party to the IQE IPR, then Qorvo’s stipulation would not prevent Qorvo from asserting the same art that is presented in both the present Petition and in the IQE IPR in the *Akoustis-Qorvo* litigation.

Because Qorvo presents a *Sotera* stipulation, we decline to exercise our discretion under § 314(a) to deny institution in view of the *Akoustis-Qorvo* litigation. *See Fintiv* memo at 3, 7, 9.

III. INSTITUTION OF *INTER PARTES* REVIEW

The Petition in this proceeding asserts the same grounds of unpatentability that are currently subject to review in the IQE IPR. *See* IPR2024-00609, Paper 9 (institution decision); *see also* IPR2024-00609, Paper 1 (the “IQE Petition”); *see also* Mot. 2 (stating Qorvo’s Petition “challenges the same claims on the same grounds as the IQE Petition. It relies on the same prior art as the IQE Petition. And it is supported by

substantially the same expert declaration by the same expert, Dr. Shanfield, as the IQE Petition.”).

Patent Owner’s Preliminary Response in the present proceeding repeats the same arguments as those set forth in the preliminary response in the IQE IPR. *Compare* Prelim. Resp. 8–21, 28–61 *with* IPR2024-00609, Paper 6, 8–20, 33–61. For example, in both of its preliminary responses, Patent Owner repeats its arguments opposing Petitioner’s ground 6¹¹ and asserts that claim 10 is patentable because Guo is not prior art to claim 10 and that Petitioner failed to provide a reason to combine Guo and Ashby to arrive at the claimed invention of claims 5 and 17. Prelim. Resp. 56–60.

Patent Owner includes an additional argument in the present proceeding when it further contends that its arguments regarding claim 5 and 17 also apply to claim 10. *Id.* at 61. In particular, Patent Owner states:

For the reasons discussed in Section IV.C.2.a [i.e., Prelim. Resp. 57–60], a POSITA would not have combined Guo and Ashby and thus institution of claim 10 is also unwarranted.

Id.

For the same reasons stated in our Decision on Institution in the IQE IPR, we determine that institution is warranted here. *See* IPR2024-00609, Paper 9 at 41–44. With respect to Patent Owner’s additional argument that Petitioner failed to provide a reason to combine Guo and Ashby to arrive at the claimed invention of claim 10 for the same reasons set forth with respect claims 5 and 17 (Prelim. Resp. 61), we note that, as stated in our Decision on Institution, Petitioner provides argument and declaratory testimony that a person of ordinary skill in the art would have had reason to

¹¹ In Ground 6, Petitioner asserts that dependent claims 5, 10, and 17 would have been obvious over the combination of Guo and Ashby. Pet. 60–66.

combine Guo and Ashby, and that whether Petitioner's assertions are sufficient to show a reason to combine the references is best resolved on a full record. IPR2024-00609, Paper 9 at 43.

For the above reasons, we determine Petitioner has set forth a reasonable likelihood that it would prevail with respect to at least one challenged claim, and we, therefore, institute an *inter partes* review on all grounds raised in the Petition.

IV. MOTION FOR JOINDER

Joinder in an *inter partes* review is subject to the provisions of 35 U.S.C. § 315(c), which provides:

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.

To join a petitioner to an instituted IPR, the Board first determines whether the Petition “warrants” institution under § 314. *See Facebook, Inc. v. Windy City Innovations, LLC*, 973 F.3d 1321, 1332 (Fed. Cir. 2020). Patent Owner asserts the Board should deny institution for the reasons set forth in its Preliminary Response. Opp. 3. For the reasons discussed above, we determine that institution of *inter partes* review is warranted.

The Board next determines whether to exercise “discretion to decide whether to ‘join as a party’ the joinder applicant,” who is the Petitioner in this proceeding. *Facebook*, 973 F.3d at 1332. Petitioner timely filed its Contingent Motion for Joinder before institution of the IQE IPR. *See* Mot. 1; 37 C.F.R. § 42.122(b) (“Any 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.”).

As the moving party, Petitioner bears the burden of proving that it is entitled to the requested relief. 37 C.F.R. § 42.20(c). In deciding whether to grant joinder, we consider: (1) the reasons why joinder is appropriate, (2) whether the petition raises any new grounds of unpatentability, (3) any impact that joinder would have on the cost and trial schedule for the existing review, and (4) whether joinder will add to the complexity of briefing or discovery. *Kyocera Corp. v. Softview LLC*, IPR2013-00004, Paper 15, 4 (PTAB Apr. 24, 2013); Trial Practice Guide at 76.

Petitioner contends that joinder with the IQE IPR is appropriate because Qorvo’s Petition (Paper 1) is substantially the same as the IQE Petition. Mot. 2, 4–5. Petitioner states that its Petition challenges the same claims on the same grounds, relies on the same art, and is supported by substantially the same expert declaration by the same expert as the IQE Petition. *Id.* at 2, 4. Petitioner states that no additional burden would be created and that joinder would lead to an efficient resolution of the asserted invalidity of the ’360 patent. *Id.* at 2, 5–6. Petitioner further stipulates that if joinder is granted, that it will act as an “understudy” unless IQE ceases to participate in the proceeding and that joinder will not unduly complicate the IQE IPR or delay its schedule. *Id.* at 2, 5–8.

Patent Owner responds that if the Board does institute the IQE IPR, that “joinder would be appropriate if Petitioner is given the ‘understudy’ role laid out in *Noven Pharms., Inv. v. Novartis AG*, IPR2014-00550, Paper 38 at 5 (PTAB Apr. 10, 2015).” Opp. 3. Petitioner has agreed to the conditions laid out in *Noven*. *Id.* at 6–7. In particular, Petitioner agrees, upon joining the IQE IPR, to the following conditions:

A. all filings by Petitioner in the IQE IPR shall be consolidated with the filings of IQE, unless a filing concerns issues solely involving Petitioner;

B. Petitioner shall not be permitted to raise any new grounds not instituted by the Board in the IQE IPR, or introduce any argument or discovery not introduced by IQE;

C. Petitioner shall be bound by any agreement between Patent Owner and IQE concerning discovery and depositions; and

D. Petitioner at deposition shall not receive any direct, cross examination, or redirect time beyond that permitted under either 37 C.F.R. § 42.53 or any agreement between Patent Owner and IQE.

Id. The Board instituted the IQE IPR. *See* IPR2024-00609, Paper 9. We agree with Petitioner that joinder with the IQE IPR is appropriate under the circumstances. Accordingly, we grant Petitioner's Motion for Joinder

V. ORDER

For the foregoing reasons, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–24 of the '360 patent is hereby instituted with respect to all grounds of unpatentability set forth in the Petition, commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial;

FURTHER ORDERED that, pursuant to 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122, Petitioner's Motion for Joinder is granted, subject to the above-described limitations on Petitioner's participation in that proceeding, and Petitioner is hereby joined as a petitioner in IPR2024-00609;

FURTHER ORDERED that the asserted grounds of unpatentability on which the Board instituted *inter partes* review in IPR2024-00609 are unchanged and remain the only instituted grounds;

FURTHER ORDERED that the Scheduling Order entered in IPR2024-00609, and any modifications thereto, shall govern the schedule of the proceeding;

FURTHER ORDERED that all further filings are to be made in IPR2024-00609;

FURTHER ORDERED that the case caption in IPR2024-00609 for all further submissions shall be modified to reflect Petitioner's joinder in a manner consistent with the example included below; and

FURTHER ORDERED that a copy of this Decision shall be entered into the record in IPR2024-00609.

IPR2024-00758
Patent 7,250,360 B2

FOR PETITIONER:

Ryan Richardson
Graham Phero
Brian Burke
STERNE, KESSLER, GOLDSTEIN & FOX PLLC
rrichardson-ptab@sternekessler.com
gphero-ptab@sternekessler.com
bburke-ptab@sternekessler.com

FOR PATENT OWNER:

John B. Campbell
James Quigley
George Fishback
MCKOOL SMITH, P.C.
jcampbell@mckoolsmith.com
jqigley@mckoolsmith.com
gfishback@mckoolsmith.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IQE PLC and
QORVO, INC.,
Petitioner,

v.

CORNELL RESEARCH FOUNDATION INC.,
Patent Owner.

IPR2024-00609¹²
Patent 7,250,360 B2

¹² Qorvo, Inc., which filed a petition in IPR2024-00758, has been joined as a party to this proceeding.