

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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KANGXI COMMUNICATION TECHNOLOGIES (SHANGHAI) CO., LTD.

Petitioner,

v.

SKYWORKS SOLUTIONS, INC.

Patent Owner.

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Case No. 2025-00373

U.S. 8,717,101

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**PETITIONER'S OPPOSITION TO PATENT OWNER'S REQUEST FOR  
DISCRETIONARY DENIAL OF INSTITUTION**

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1003	Declaration of Dr. David Ricketts
1004	U.S. Patent Publication 2009/0212863 (“ <i>Ishimaru</i> ”)
1005	U.S. Patent Publication 2004/0232982 (“ <i>Ichitsubo</i> ”)
1006	Excerpts of Linden T. Harrison, Current Sources and Voltage References, A Design Reference for Electronics Engineers (Elsevier 2005) (“ <i>Harrison</i> ”)
1007	U.S. Patent Publication 2011/0025422 (“ <i>Marra</i> ”)
1008	Johnson, “Silicon-Germanium BiCMOS HBT Technology for Wireless Power Amplifier Applications,” IEEE J. Solid State Circuits, Vol. 39, No. 10 (Oct. 2004) (“ <i>Johnson</i> ”)
1009	Excerpts of Laplante, Comprehensive Dictionary of Electrical Engineering (2d Ed. 2005) (“ <i>Laplante</i> ”)
1010	U.S. Patent Publication No. 2011/0128078 (“ <i>Doherty</i> ”)
1011	Christopher Bowick, “What’s in an RF Front End,” EE Times (Feb. 4, 2008) available at: <a href="https://www.eetimes.com/whats-in-an-rf-front-end/">https://www.eetimes.com/whats-in-an-rf-front-end/</a> (last accessed December 12, 2024) (“ <i>Bowick</i> ”)
1012	Barrie Gilbert, “Bipolar Current Mirrors”, Chapter 6 in Tomazou <i>et al.</i> , Analog IC Design: The Current Mode Approach (Reprinted 2008) (“ <i>Gilbert</i> ”)
1013	Excerpts of Gray <i>et al.</i> , Analysis and Design of Analog Integrated Circuits (5 <sup>th</sup> Ed. 2009) (“ <i>Gray</i> ”)
1014	Excerpts of Grebene, Bipolar and MOS Analog Integrated Circuit Design (2003) (“ <i>Grebene</i> ”)
1015	Excerpts of Illingworth, Dictionary of Electronics (3d Ed. 1998)
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1018	Certified Translation of Japanese Patent Application Publication No. JP 2009-283991 (“ <i>Akagi</i> ”)
1019	U.S. Patent No. 6,831,517 (“ <i>Hedberg</i> ”)
1020	Joint Claim Construction Chart in ITC Inv. No. 337-TA-1413
1021	VintageTek biography, Barrie Gilbert, available at <a href="https://vintagetek.org/barrie-gilbert/">https://vintagetek.org/barrie-gilbert/</a> (“ <i>Gilbert Biography</i> ”)
1022	<i>Diels</i> , Single-Package Integration of RF Blocks for a 5 GHz WLAN Application, IEEE Transactions On Advanced Packaging, Vol. 24, No. 3, (August 2001) (“ <i>Diels</i> ”)
1023	<i>Scherz</i> , Practical Electronics for Inventors (2000) ( <i>Sherz</i> )
1024	<i>Horowitz</i> , Elementary Electricity and Electronics, Component by Component, (1986) (“ <i>Horowitz</i> ”)
1025	<i>Yanjun</i> , “A 2.4-GHz SiGe HBT power amplifier with bias current controlling circuit”, Chinese Institute of Electronics, Journal of Semiconductors, Vol. 30, No. 5, (May 2009), (“ <i>Yanjun</i> ”)
1026	Patent Owner’s Markman Briefs in ITC Inv. No. 337-TA-1413
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1029	U.S. Patent 9,917,563 (“the ’563 Patent”)
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## **I. Introduction**

USPTO policy on discretionary denials shifted dramatically from the policy in place when Petitioner was sued in 2024 and its filing of petitions for *inter partes* review of the asserted patents in 2024, and the instant petition, filed January 14, 2025. During that time, Petitioner was operating under the prior policy of the USPTO, embodied in the June 21, 2022 memorandum titled “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation.” Importantly, under the policy in place at the time, the PTAB categorically would not discretionarily deny petitions based on applying *Fintiv* to a parallel ITC proceeding. With a parallel district court litigation swiftly stayed in its infancy, and only an ITC action pending, Petitioner reasonably relied on the operative policies of the USPTO, and set about preparing invalidity defenses in the PTAB and ITC, including preparing petitions for the wave of patents asserted by Skyworks Solutions, Inc. (Patent Owner or PO) and its affiliates in the district court and ITC actions, and minimizing the number of prior art invalidity fights across the forums.

Then, on February 28, 2025, the PTAB rescinded the policies of its June 21, 2022 memorandum. On March 24, 2025, Chief Administrative Patent Judge Boalick issued a memorandum titled: “Guidance on USPTO’s Recission of ‘Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with

Parallel District Court Litigation.”” On March 26, 2025, USPTO Acting Director Stewart issued a Memorandum on Interim Processes for PTAB Workload Management describing a new bifurcated process for determining discretionary denials of IPRs. Under the new guidance and procedures, the USPTO Director will review the case for discretionary denial considerations separately from the merits. The parties are permitted to address all relevant considerations, including:

- Whether the PTAB or another forum has already adjudicated the validity or patentability of the challenged patent claims;
- Whether there have been changes in the law or new judicial precedent issued since issuance of the claims that may affect patentability;
- The strength of the unpatentability challenge;
- The extent of the petition’s reliance on expert testimony;
- Settled expectations of the parties, such as the length of time the claims have been in force;
- Compelling economic, public health, or national security interests;
- and
- Any other considerations bearing on the Director's discretion.

Under the new guidance and procedures, the Board should nonetheless institute because the Petition presents an overwhelming strong case of invalidity, and the Board will be the first tribunal with binding authority to rule on the

invalidity of the '101 Patent, long before the issue will be taken up in the currently-stayed parallel district court litigation. The Patent Owner's Request for Discretionary Denial ("PO Request") sets forth factors the Board should consider but does not acknowledge the unique circumstances presented due to the related district court action having already been stayed, and the only other tribunal that may address invalidity issues being the ITC – a forum that may not even reach prior art invalidity, and even if it does, cannot preclude that issue from being re-litigated in the district court. Instead, the PTAB should embrace its statutory role as the lead agency on prior art invalidity and take up the merits of this challenge. There are many, more relevant factors not addressed by the PO Request. The requester has not met its burden to show that it is entitled to the relief requested.

## **II. Overview of Related Litigation**

On May 6, 2024, Patent Owner filed a complaint for patent infringement in the U.S. District Court in the Central District of California asserting infringement of four patents including the United States Patent Nos. 8,717,101 ("the '101 Patent"), 9,917,563 ("the '563 Patent"), 9,450,579 ("the '579 Patent"), and

9,148,194 (“the ’194 Patent”).<sup>1</sup> On the same day, two of Patent Owner’s affiliates filed a second complaint asserting infringement of a fifth United States patent, U.S. 7,409,200 (“the ’200 patent”).<sup>2</sup> On July 17, 2024, Patent Owner filed a complaint before the ITC asserting infringement of the same five patents.<sup>3</sup> On September 13, 2024, the district court stayed the litigations (both the Parallel District Court Litigation and the Second District Court Litigation) in view of the Parallel ITC Investigation pursuant to the automatic stay provision of 28 U.S.C. 1659(A).

The present Petition challenging the ’101 Patent was filed in January 2025, less than six months after the five patents were asserted in the Parallel ITC Investigation. Between July 2024 and January 2025, Petitioner diligently prepared

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<sup>1</sup> *Skyworks Solutions, Inc. v. Kangxi Communication Technologies (Shanghai) Co., Ltd et al.*, Case No. 8:24-cv-00974-FWS-ADS (C.D. Cal. May 6, 2024) (“Parallel District Court Litigation”).

<sup>2</sup> *Skyworks Solutions Canada, Inc., Skyworks Global Pte Ltd v. Kangxi Communication Technologies (Shanghai) Co., Ltd et al.*, Case No. 8:24-cv-00976-FWS-ADS (C.D. Cal. May 6, 2024) (stayed) (“Second District Court Litigation”).

<sup>3</sup> *Certain Wireless Front-End Modules, Devices Containing the Same, and Components Thereof*; Inv. No. 337-TA-1413 (ITC)(July 16, 2024)( “Parallel ITC Investigation”).

and filed five IPR petitions directed to the five patents asserted in the Parallel ITC Investigation. Patent Owner dropped three patents from the Parallel ITC Investigation. Patent Owner dropped the '200 Patent on December 10, 2004, before Petitioner had filed its petition challenging that patent. Patent Owner dropped the '579 Patent on February 25, 2025, after Petitioner filed a petition challenging the patent. Patent Owner dropped the '194 Patent on April 4, 2025, after Petitioner filed a petition challenging the patent. Thus, much of Petitioner's efforts drafting IPR petitions were expended challenging patents that the Patent Owner ultimately dropped. Patent Owner appears to have asserted so many patents in a campaign to overwhelm and distract Petitioner, forcing Petitioner to spend resources on patents that Patent Owner would drop from the Parallel ITC Investigation. Nevertheless, Petitioner filed the current Petition within six months of the filing of the Complaint in the Parallel ITC Investigation.

### **III. The *Fintiv* Factor Analysis Supports Institution.**

The PO Request misapplies the *Fintiv* factors as if there was an active parallel litigation in a district court. There is none. The Parallel District Court Litigation was stayed immediately and remains stayed, leaving the invalidity issues presented by this Petition squarely to the specialized expertise of the Board, well before any party invested in prior art invalidity in a district court litigation. Because of the unique circumstances of the Parallel District Court Litigation and

Parallel ITC Investigation here, Factor 6 is the most relevant factor. Petitioner addresses that factor first, before addressing the remaining *Fintiv* factors.

**A. The Circumstances of the Stayed Parallel District Court Litigation, Parallel ITC Investigation and the Strength of the Petition Strongly Favor Institution Under *Fintiv* Factor 6**

**1. Unlike a District Court, the ITC May Not Reach Prior Art Invalidity**

In a district court litigation, a defendant in a patent infringement case can assert a counterclaim of patent invalidity. In doing so, the district court is required to address the invalidity counterclaim, even if it finds no infringement, or even if the patent owner withdraws the infringement claim. Thus, the defendant has sole control over whether the district court will hear an invalidity challenge. In the present case, the district court stayed the Parallel District Court Litigation in its infancy, before defendant answered the complaint.

On the other hand, in an ITC action the respondent has no control over whether the ITC will address an invalidity challenge. As is particularly the case here, the ITC final decision may not even address prior art invalidity:

**a. Petitioner has made a strong showing in the Parallel ITC Investigation that the ITC does not have jurisdiction**

In the Parallel ITC Investigation, a key defense is that the Patent Owner does

not actually practice the '101 Patent<sup>4</sup> and the ITC does not therefor have jurisdiction. If Petitioner is correct, as it strongly believes it is, there is no need for the ITC to decide the issue of prior art invalidity.

More specifically, the ITC has a standing requirement pursuant to 19 U.S.C. § 1337 requiring that an ITC complainant show (1) that it maintains the required level of economic activity within the United States, and (2) this economic activity is devoted to exploiting the intellectual property right at issue. This standing requirement is known as the “domestic industry requirement,” and the two sub-requirements respectively referred to as the “economic prong” and the “technical prong” of the domestic industry (DI) requirement.

In particular, in the Parallel ITC Investigation, Petitioner has raised the defense that Patent Owner does not have standing because it cannot satisfy the technical prong of the DI requirement. Petitioner has demonstrated that Patent

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<sup>4</sup> In the alternative, Petitioner maintains that if the full scope of the challenged claims is broad enough to cover the techniques that Patent Owner uses in its products as Patent Owner alleges, then the challenged claims are invalid for failure to meet the written description and enablement requirements of 35 U.S.C. § 112. This invalidity dispute is not before the Board. This is yet another reason that the ITC may never reach prior art invalidity of the Challenged Patent.

Owner cannot prove that it practices any claim of the '101 Patent. While the ITC administrative law judge (ALJ) is expected to make a preliminary determination on all issues, including whether Patent Owner has standing, the Commission reviews the preliminary determination *de novo* and will make its own findings or adopt the ALJ's findings. The Commission need not reach the issue of invalidity generally, or the issue of prior art invalidity specifically. For example, if the ALJ preliminary determination finds no jurisdiction based on Patent Owner's failure to satisfy the technical DI requirement, the Commission can adopt the finding of no jurisdiction and never reach the issue of invalidity. Because of the uncertainty presented by Petitioner's strong jurisdictional challenge, the Parallel ITC Investigation is unlikely to provide an alternative venue for Petitioner's prior art invalidity challenge.

**b. Petitioner has made a strong showing that it does not infringe the asserted claims**

In the Parallel ITC Investigation, Petitioner has also demonstrated that its accused products do not infringe. Patent Owner is accusing conventional structures performing conventional functions that have nothing to do with the correction-current based invention disclosed and claimed in the '101 Patent. While the ALJ is expected to make a preliminary determination on all issues, including whether the accused products infringe the asserted claims, the Commission reviews

the preliminary determination *de novo* and will make its own findings or adopt the ALJ's findings. The Commission need not reach the issue of invalidity for this additional reason. For example, if the ALJ initial determination finds no infringement, the Commission can adopt the no infringement finding and need not reach invalidity at all, much less the specific prior art invalidity issues in this Challenge. Because of the uncertainty presented by Petitioner's strong non-infringement defense, the Parallel ITC Investigation may not provide an alternative venue for Petitioner's invalidity challenge, leaving the parties at square one on prior art invalidity in the Parallel District Court Litigation.

**2. The PTAB Is Better Situated in this Case to Handle the Question of Prior Art Invalidity**

Section 337 investigations consider an array of factors of which prior art invalidity is just one. In the Parallel ITC Investigation, the following issues are pending:

- (1) Whether Patent Owner has standing based on a failure to satisfy the DI requirements, including economic and technical prongs.
- (2) Whether Patent Owner has met its burden to show infringement of the asserted claims of the '101 Patent.
- (3) Whether the asserted claims are invalid under 35 USC 112 under the claim scope Patent Owner asserts for purposes of DI (technical prong).

(4) Whether the asserted claims are anticipated under 35 USC 102.

(5) Whether the asserted claims are invalid under 35 USC 103.

(6) The appropriate remedy, if any.

In the stayed Parallel District Court Litigation, additional issues await, including damages.

On the other hand, in the current IPR, the only issue is invalidity under 103 over *Ishimaru* (Ground 1) or *Ishimaru* in view of *Harrison* (Ground 2). The structure of the Parallel ITC Investigation, and its condensed timeline to handle a greater number of issues than the PTAB, means that validity assessments of Grounds 1 and 2 will not get the same attention and focus that they will receive in the current IPR proceeding. For instance, here the PTAB panel will be made up of three technically trained judges who will decide whether the '101 Patent is invalid based on two references with a record containing approximately 50 exhibits. Moreover, the USPTO is best suited to leverage its expertise and fulfill its statutory role as the lead agency on prior art invalidity. As the International Trade Commission has recognized, the USPTO is “the lead agency in assessing the patentability, or validity, of proposed or issued claims.” *Certain Unmanned Aerial Vehicles & Components Thereof* (“*Certain Unmanned Aerial Vehicles*”), Inv. No. 337-TA-1133, Comm’n Op. at 37–38 (Sept. 8, 2020) (suspending remedial orders prior to appeal in view of final written decisions). In the Parallel ITC

Investigation, a single ALJ, while assisted by a technically trained staff attorney, will consider at least six major issues based on a record consisting of thousands of exhibits. Thus, in this case, the PTAB can more efficiently handle the limited validity issues than the ITC. Furthermore, bringing the expertise of the USPTO on the issue of prior art invalidity, as the lead agency on that issue, will undeniably create efficiencies for the stayed Parallel District Court Litigation.

**3. Even If the ITC Reaches the Invalidity Issue, That Would Not Preclude Litigation of Prior Art Invalidity in the Stayed Parallel District Court Litigation, Undermining Congressional Intent of the AIA and Severely Prejudicing Petitioner**

Any decision by the ITC regarding validity/invalidity of the '101 Patent is not binding on the PTAB nor on the district court. Thus, an invalidity finding by the ITC does not prevent the same invalidity issue from being litigated at the district court. *Certain Unmanned Aerial Vehicles*, at 37 (“The Commission’s invalidity determinations in patent cases, in contrast, are for purposes of adjudicating whether or not a Section 337 violation has occurred, and are not binding on the PTO, federal courts, or other tribunals, even if affirmed by the Federal Circuit.”); *Hyosung TNS Inc. v. Int’l Trade Comm’n*, 926 F.3d 1353, 1358 (Fed. Cir. 2019). This is true even if the ITC determines that the asserted claims of the '101 Patent are invalid and the Court of Appeals for the Federal Circuit affirms that finding. *Id.*

Thus, if the PTAB does not take up the invalidity challenge in this IPR, by the time the district court stay is lifted, Petitioner will be beyond the 1-year statutory bar for filing an IPR — forever precluding Petitioner from reaching the PTAB as the alternative venue provided by the AIA for this patent —, with any invalidity effort in the ITC having no legal preclusive effect on the district court litigation. This would be severely prejudicial to Petitioner and would directly flout the duly passed AIA, a statute of the United States.

The district court litigation *In Re Convertible Rowing Exercise Patent Litigation* is instructive. 721 F. Supp. 5996 (D. Del 1989), appeal denied, 904 F.2d 44 (Fed. Cir. 1990). In that case, the ITC had performed a full investigation of the complaint that the patent in suit was invalid, stating that “while all other aspects of an unfair trade practice had been established, the invention of the ’071 patent was obvious in view of the [prior art].” *Id.* at 598. The patent owner appealed to the Federal Circuit, and the Federal Circuit affirmed the ITC determination that the patent was invalid as obvious. 824 F.2d at 980.

Based on the Federal Circuit’s affirmance, the defendant in the district court moved for summary judgment of invalidity. However, the district court *denied* the motion, refusing to give preclusive effect to the affirmed ITC determination of invalidity. The district court refused to give preclusive effect, noting that while jurisdiction over unfair trade practices acts lies with the ITC, jurisdiction over

validity, enforceability and infringement lies with the district courts. The district court cited the legislative history of the Trade Act of 1974, noting that it specifically stated “[t]he Commission’s finding neither purports to be, nor can they be [regarded] as binding interpretations of U.S. Patent Laws in particular factual contexts.” *Id.* at 602. With respect the affirmance, the district court noted that the Federal Circuit has specifically stated that its appellate treatment of ITC patent determinations should not prevent district courts from rehearing these issues. *Id.* (citing *Tandon Corp. v. U.S. Int’l Trade Comm.* 831 F.2d 1017, 1019 (Fed. Cir. 1987)). In short, the pending ITC investigation cannot resolve the invalidity dispute that remains at issue in the stayed Parallel District Court Litigation.

As a result, exercising discretionary denial would ultimately consume more resources of the parties and the district court than institution, contrary to the express Congressional intent in enacting the AIA. In this case, due to the number of issues for the ITC, the non-preclusive effect of any invalidity determination decision by the ITC, and Petitioner’s diligence in filing the Petition within 6 months of the ITC Complaint being filed, the PTAB provides an important, statutorily provided, quick and cost-effective alternative to litigating prior art invalidity in the pending district court action. Institution would thus directly serve the Congressional goal of the IPR procedure under the America Invents Act (“AIA”) to provide “a quick, inexpensive, and reliable alternative to district court

litigation to resolve questions of patent validity.” S. REP. NO. 110-259, at 20 (2008); *In the Matter of Certain Three-Dimensional Cinema Sys. & Components Thereof*, USITC Inv. No. 337-TA-939, 2016 WL 7635412 at \*32 (Aug. 23, 2016) (citing H.R. REP. NO. 112-98, at 48 (2011)). The statutory framework set down by Congress is well recognized and should not be undermined arbitrarily by agency action, especially for an IPR filed well within the time limits expressly governed by statute. *SAS Institute, Inc. v. Iancu*, 138 S.Ct. 1348, 1352 (2018) (The IPR “procedure allows private parties to challenge previously issued patent claims in an adversarial process before the Patent Office that mimics civil litigation.”); *Johnson Health Tech. Co. v. Icon Health & Fitness, Inc.*, IPR2014-01242, Paper 16 (PTAB Feb. 11, 2015)(the one-year statutory bar of § 315(b) “helps to ensure that *inter partes* review provides a quick and cost effective alternative to litigation, and is not used as a tool for harassment or litigation gamesmanship” (citing H.R. Rep. No. 01242, *as reprinted in* 2011 U.S.C.C.A.N. at 78)). As the ITC has acknowledged:

[T]he statutory framework reflect Congress’s goal that IPR proceedings be a substitute for district court litigation on patent validity issues. For example, the AIA accounts for litigation timing; provides for an adversarial proceeding with discovery, an oral hearing, and adjudication by a panel of three administrative patent judges; and estops IPR petitioners from asserting invalidity grounds at the Commission

and in district court that were raised or reasonably could have been raised in the IPR proceeding. *See* 35 U.S.C. §§ 315(a), 315(b), 315(e), 316(a)(5), 316(a)(10).

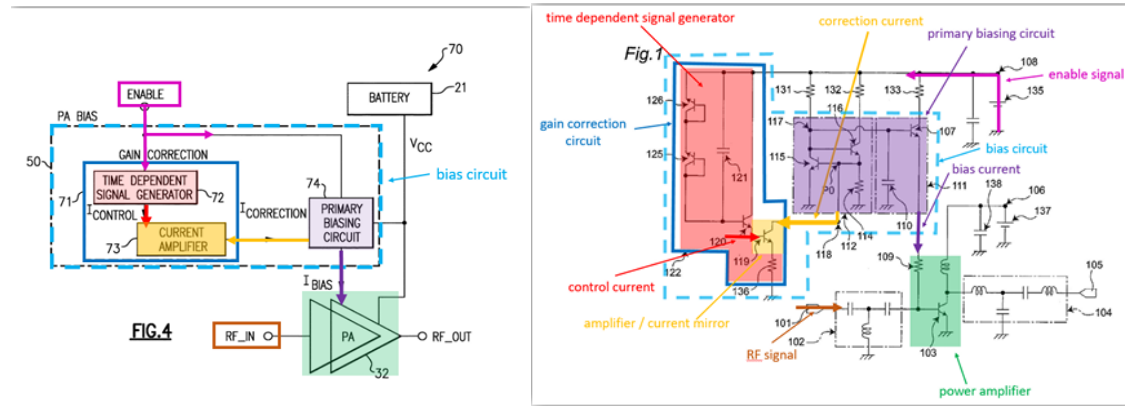
*Certain Unmanned Aerial Vehicles*, at 37 (suspending enforcement of its remedial orders to give “effect to the Congressional goal” of the AIA and giving due regard to the USPTO as the “lead agency” on prior art invalidity).

**4. The Demonstrated Strength of the Challenges of the Petition Outweigh any Concerns that Might Arise Under Factors 1-5.**

The Petition demonstrates how the cited art includes each limitation including the “current mirror” limitations that were added during prosecution to gain allowance. The Petition demonstrates that the *Ishimaru* reference includes a parallel disclosure to that of the ’101 Patent, addressing the same problem, and providing the same current based solution thereto. Indeed, *Ishimaru* is presented as a single reference obviousness ground here, and is so strong that it is being presented as an anticipatory reference in the ITC.

Both the ’101 Patent and *Ishimaru* are directed to a biasing circuit that addresses the problem of power amplifier gain variation at startup, *i.e.* gain variation during the time period between when the PA is enabled (turned on) and when it reaches steady state operation. Both the ’101 Patent and *Ishimaru* propose the same solution of providing a current boost to the PA bias current to correct for

variation of gain when the PA is activated/enabled, *i.e.*, during PA startup. EX-1001 4:28-43, 9:56-60; EX-1003 ¶34. For example, a comparison of Fig. 4 of the '101 Patent on the left, and Fig. 1 of *Ishimaru* on the right, demonstrates a color-coded mapping of each claim element recited in the asserted claims.

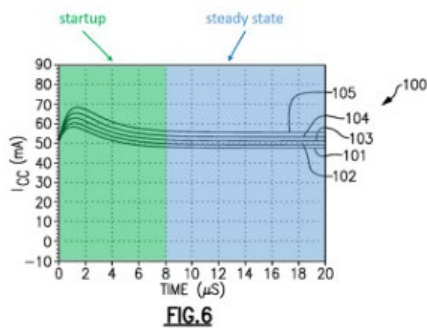


EX-1001 Fig. 4 (Annotated).

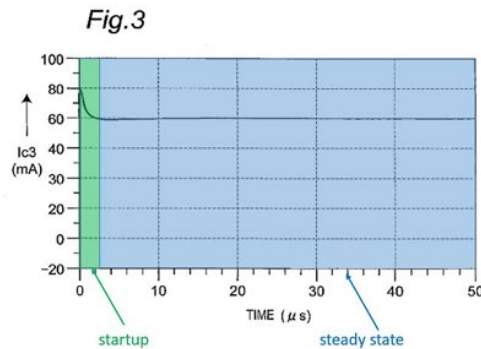
EX-1004 Fig. 1 (annotated).

Pet. 2, 5.

The output of both circuits is substantially similar as seen below, with Figure 6 of '101 Patent on the left, and the output of the *Ishimaru* shown in Figure 3 on the right:



EX-1001 Fig. 6 (annotated).



EX-1004 Fig. 3 (annotated); EX-1003 ¶41.

Pet. 4, 7.

The PO Request only further confirms the strength of the merits of the Petition in that it resorts mischaracterizing the law and the facts in a desperate attempt to avoid reaching the merits.

For example, with respect to Ground 1, Patent Owner asserts that *Ishimaru* does not disclose a current mirror because it “makes no reference to a current mirror or mirroring current **anywhere** in its disclosure.” PO Req. 22. However, according to well-established legal precedent, a reference’s disclosure includes both its express teachings as well as that which a POSA would reasonably understand or infer therefrom. *Eli Lilly v. L.A. Biomedical Rsch. Inst.*, 849 F.3d 1073, 1074–75 (Fed. Cir. 2017); *In re Preda*, 401 F.2d 825, 826 (CCPA 1968). There is no requirement that a reference disclose a limitation expressly or make references to specific claim language. The Petition demonstrates that in view of the knowledge that a skilled artisan possessed at the time of the filing of the ’101 Patent, a person or ordinary skill in the art (POSA) understood that transistor 119 in Figure 1 of *Ishimaru* operates as a current mirror because it mirrors the current at the base of transistor 119 to generate the correction current at its output (transistor 119’s collector in *Ishimaru*). The petition supported this understanding with expert testimony supported by contemporaneous treatises.

Specifically, the Petition in the State of the Art section demonstrates that a

POSA understood that a single Bipolar Junction Transistor (BJT) operates as a current mirror when its collector is used as its output to mirror an input current at its base, as explained by *Gilbert*. Pet. § IV.F.2. The corroborated expert testimony does not *modify Ishimaru*, but instead explains the circuitry in *Ishimaru* from the perspective and understanding of a POSA. *Eli Lilly*, 849 F.3d at 1074–75; *In re Preda*, 401 F.2d at 826.<sup>5</sup>

*Gilbert* is a treatise on BJT current mirrors, authored by a highly acclaimed engineer in this space, Barrie Gilbert. EX-1003 ¶ 62.<sup>6</sup> As confirmed by the evidence in the State of the Art, a POSA understood that BJT 119 as connected in

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<sup>5</sup> Indeed, the use of evidence of the skilled artisan’s knowledge is foundational to a proper obviousness analysis. *See KSR Int’l Co. v. Teleflex, Inc.*, 50 U.S. 398,401 (2007); *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362-63 (Fed. Cir. 2013); *Dystar Textilfarben GmbH & Co. Deutschland KG v. C.H Patrick Co.*, 464 F.3d 1356, 1367 (Fed. Cir. 2006).

<sup>6</sup> As described by Dr. Ricketts, “Barrie Gilbert was one of the pre-eminent industry leaders in analog circuit design. EX-1021(*Gilbert Biography*) (‘Barrie was likely the most famous analog circuit designer in the world.’).” EX-1003 ¶ 62 (quoting EX-1021 and observing that the IEEE devoted a publication to him, titling the cover page “The Gears of Genius: Barrie Gilbert and Analog Circuits”).

*Ishimaru*'s Figure 1 is a current mirror as claimed. See EX-1003 ¶¶ 61-71, especially ¶¶ 67-71 (describing *Gilbert*'s single-BJT current mirror in Fig. 6.2a), and ¶¶ 112-117 (corroborated expert testimony explaining *Ishimaru*'s BJT configured as a current mirror).

The Patent Owner doesn't disagree, but rather appears to assert that such a current mirror would be "poorly-controlled." PO Req. 22. However, the asserted claims do not include any qualitative limitations that would exclude a poorly-controlled current mirror. Further, Patent Owner's assertion that *Gilbert* "teaches away" is misplaced as the Petition does not assert that *Ishimaru* needs to be modified by *Gilbert* to disclose the current mirror. Instead, in Ground 1, the Petition demonstrates that *Ishimaru* by itself discloses what is recognized in the art as a current mirror, namely, transistor 119 shown in Figure 1 of *Ishimaru*.

*Ishimaru* is the base / primary reference; it can't teach away from itself.

**5. Patent Owner's New Arguments About the '563 Prosecution History Do Not Support Its Merits Attack Or Its Claim Construction**

Further, the Patent Owner's assertion that during prosecution of a later continuation<sup>7</sup> that led to U.S. 9,917,563 (EX-1029, the challenged patent in

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<sup>7</sup> To be clear, *Ishimaru* is completely absent from the prosecution history that led to the '101 Patent, the patent challenged by the Petition here. Patent Owner is now

IPR2025-00372), that the Patent Office purportedly “found” that the claimed mirroring is “**not** disclosed by *Ishimaru*” is without factual support, as the Examiner never applied *Ishimaru* during prosecution. PO Req. 21-23. The Patent Owner’s mischaracterization of the prosecution history and the unduly narrow claim construction it tries to draw from it miss the mark.

*Ishimaru* was only provided to the Office in an IDS after the first Office Action. EX-1030 (’563 Prosecution History) 069. *Ishimaru* was one of 43 references submitted to the Office during prosecution, but was not applied or discussed by the Examiner. *See* EX-1029 (’563 Patent) 001-002, EX-1030 069, 077-080. Instead, the art applied by the Examiner was *Wakita* (U.S. 8,692,619, EX-2011).<sup>8</sup> EX-1030 237-240. While Patent Owner now argues that Figure 6 of

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attempting to reconstruct the subsequent prosecution history of a different patent (the ’563 patent), in which the independent claims do not even require a “current mirror” but merely a circuit “configured to mirror.” *See, e.g.*, ’563 Patent, Claim 14. Even then, it’s arguments about that prosecution history are mistaken, as explained herein.

<sup>8</sup> At the time of the filing of the Petition, Patent Owner had never raised *Wakita* and the related ’563 Patent Prosecution History. *See, e.g.*, EX-1026 (Patent Owner’s Markman Brief).

*Wakita* is similar to Figure 1 of *Ishimaru*, the Examiner never applied Figure 6 of *Wakita*.<sup>9</sup> Instead, the Examiner relied solely on Figure 1 of *Wakita* as set forth below.

Specifically, in the Office Action dated Feb. 27, 2017, the Examiner rejected claim 1 as obvious over features illustrated in Figure 1 of *Wakita*:

Regarding claims 1 and 10, WAKITA et al. (hereinafter, **Ref-619**) discloses (see Figures 1-6 and related text for details) a mobile device/method comprising:

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<sup>9</sup> Figure 6 of *Wakita* is labeled as “prior art” and Figure 1 is described as an embodiment that addressed the problems associated with the circuit diagram of Figure 6. EX-2011 2:14-35. They are not the same.

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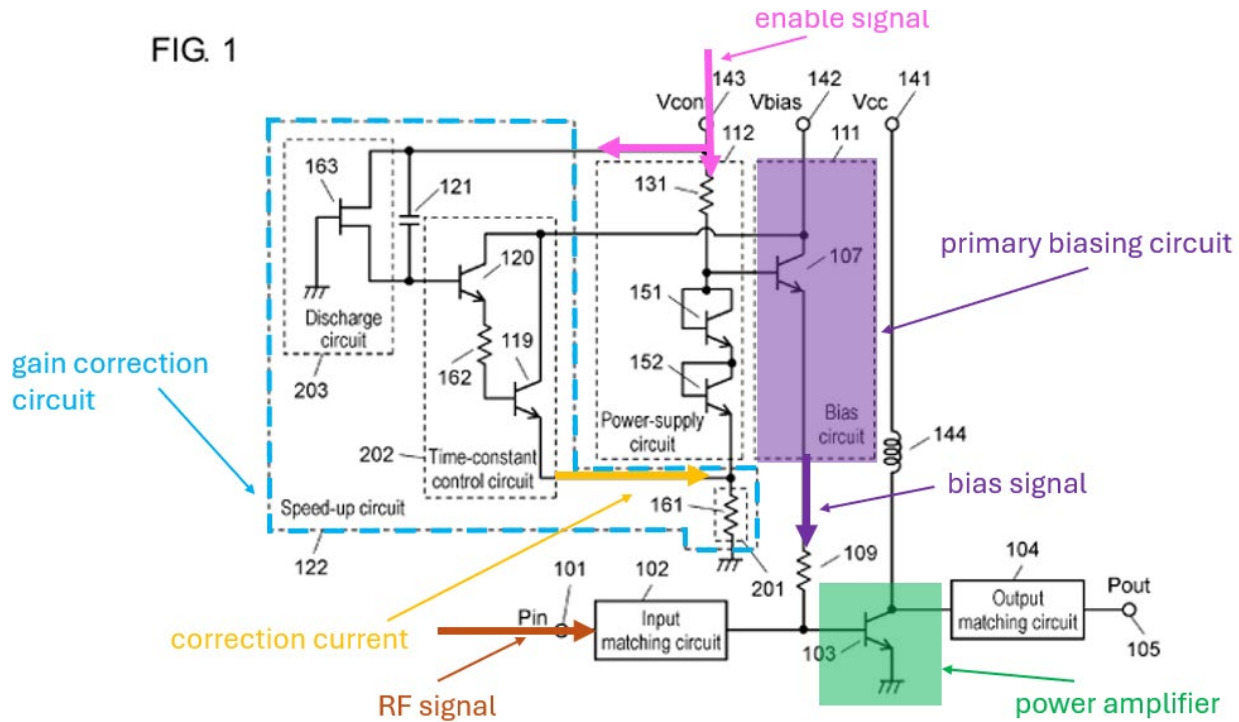
a transceiver configured to generate a radio frequency signal (at 101 of Fig. 1 and a power amplifier enable signal (Vcont disposed at 143 of Fig. 1) as seen/expected;

a power amplifier (103 of Fig. 1) configured to provide amplification to the radio frequency signal, the power amplifier configured to receive a bias signal (disposed at base of transistor 103 of Fig. 1) that biases the power amplifier; and

a bias circuit (at least 111 and/or 112 and/or 203 of Fig. 1 can be read as the claimed bias circuit OR at least it is functionally equivalent to it) configured to receive the power amplifier enable signal and to generate the bias signal, the bias circuit including a gain correction circuit (122 of Fig. 1 can be read as the claimed circuit OR at least it is functionally equivalent to it) configured to generate (via output of 202 of Fig. 1) a correction current in response to activation of the power amplifier enable signal, and a primary biasing circuit (111 of Fig. 1) configured to generate the bias signal based on the correction current and the power amplifier enable signal as expected, meeting claims 1 and 10.

EX-1030 237-240. As can be seen from the Examiner's rejection, each claim element is mapped to Figure 1 (highlighted in yellow) of *Wakita*.

As shown below, Petitioner annotates Figure 1 to show the Examiner's mapping of the claim 1 elements to Figure 1 of *Wakita*:



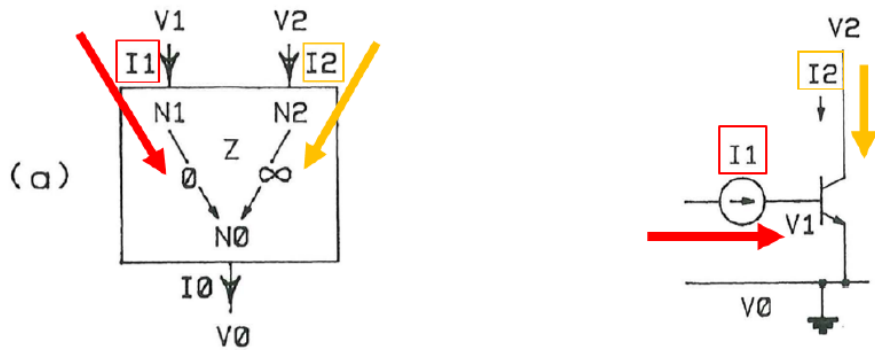
*Wakita*, Figure 1 (annotated).

As will be apparent in a moment, *Wakita* Figure 1 is not at all the same circuit as *Ishimaru* – the former is not configured as a current mirror, whereas the latter is. We begin with *Wakita*'s actual disclosure in Figure 1 and the record statements in the '563 Prosecution History about it. The Examiner mapped the “correction current” to the output of transistor time-constant control circuit 202, which is the current flowing from the emitter (below transistor 119), not the collectors (above the transistors 120 and 119). The collector terminals of 119 and 120 in *Wakita* Figure 1 are just connected to a node to receive power from “power supply terminal 142”, *i.e.*, a power supply *input* to circuit 202. *Wakita* 5:27. Nowhere did the Examiner contend that the collector current of transistor 119

corresponded to the claimed “correction current.” EX-1030, including 238 (Office Action dated 2-27-2017, 3). What the Examiner said, consistent with Petitioner’s annotation above, is that circuit 122 of Figure 1 of *Wakita* was a gain correction circuit “configured to generate (**via output of 202 of Fig. 1**) a correction current.” *Id.* (bold supplied). The “output of 202” is plainly the current flowing *out* of 119’s emitter. *Wakita* 7:3-6 (“**Currents are also passed from the collectors to the emitters of transistor 119 and transistor 120, and the current flows into resistor 161.**”) (emphasis added). *Wakita* explains that the current out of the emitter of 119 flowing into resistor 161 — *i.e. the output of circuit 202* —, controls bias current to the power amplifier 103 by setting the voltage on the base of transistor 107. *Wakita* 6:61-7:18.

This is a critical distinction because it is the reason that circuit 202 in *Wakita* Figure 1 does not form a current mirror. Neither BJT transistor 119 nor 120, nor their combination in circuit 202 of *Wakita*, mirror an input current to its output (*i.e.* the *emitter* below transistor 119), and thus neither generate the alleged correction current by mirroring any potential control current.

This is clear from EX-1003 (Ricketts Decl.) ¶¶ 61-73, 134-139 and, e.g., EX-1012 (*Gilbert*). For example, the transistors 119/120 in *Wakita* Figure 1 do not take the form described by *Gilbert* and appearing in *Ishimaru*’s circuit:

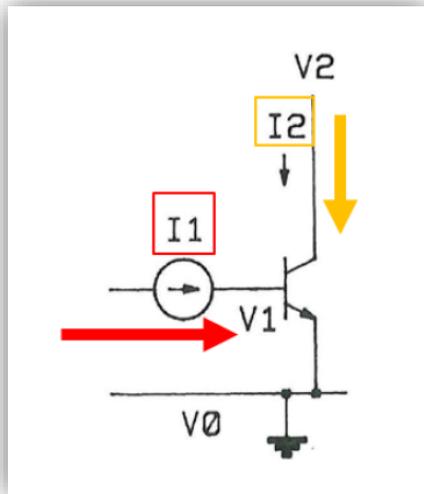


*Gilbert, 240, Fig. 6.1a (annotated)*    *Gilbert, 243, Fig. 6.2a (annotated)*

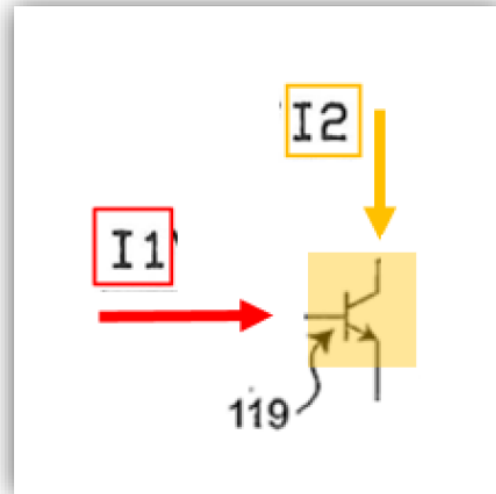
EX-1003 ¶¶ 67-68. In the above figures node 2 (N2) generates a current sink (gold) that is a replica/mirror of the current input (red). The red and gold currents then come together (additive) and flow out of the common node, node 0 (N0 in Figure 6.1a, the emitter in Fig. 6.2a). *Id.* It is the collector current (gold) that is replicated by “mirror ratio, M” in the form of the “common emitter current-gain,  $\beta$ ”, such that the collector current (yellow in Fig. 6.2a) that is a replica, scaled by  $\beta$ , of the base current (red in Fig. 6.2a). *Id.* (citing EX-1012, EX-1015).

Dr Ricketts explains, corroborated by respected treatise from *Gilbert* (EX-1012), how this exactly aligns to the presence, connections, and configuration of transistor 119 in *Ishimaru*:

115. Likewise, *Ishimaru's* transistor 119 is connected and used in the same way as *Gilbert's* single transistor current mirror shown of his Figure 6.2a:

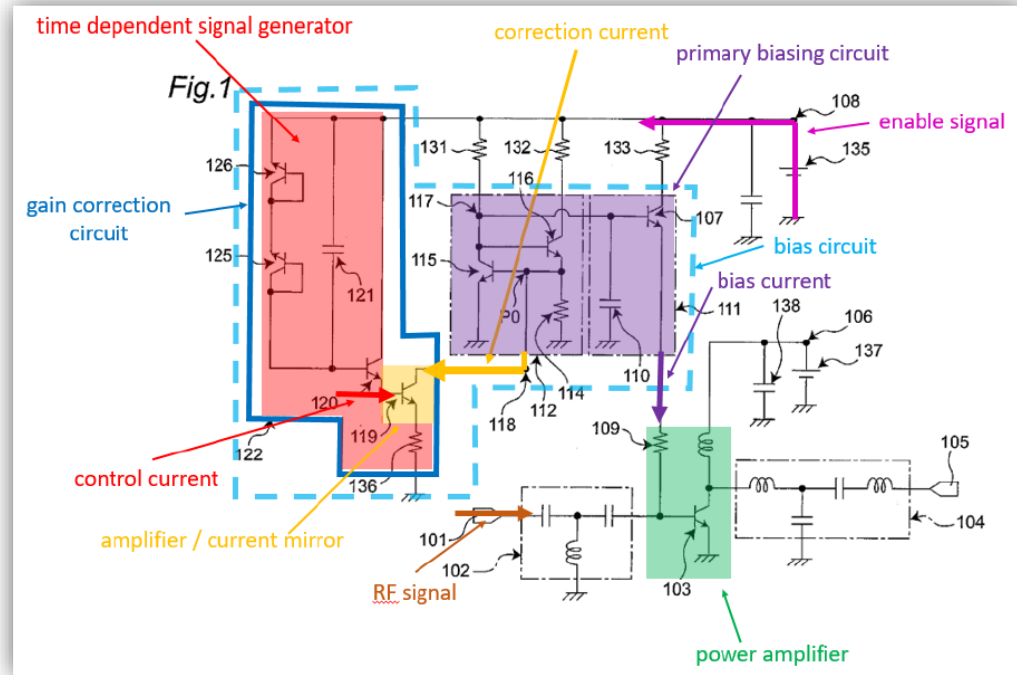


EX-1012 243, Fig. 6.2a (annotated)



EX-1004 Fig. 1 (annotated)(partial)

EX-1003 ¶ 115 (comparing single BJT description in *Gilbert* on the left, with *Ishimaru's* transistor 119 on the right); see also ¶¶ 112-115 (stepping through analysis). Dr. Rickett's repeatedly explains how the transistor is used to take a control current, mirror and amplify it, to generate a correction current (gold) that corrects the operation of *Ishimaru's* primary biasing circuit, *exactly as claimed*, and to solve the same problem and provide the same solution as the preferred embodiments of the '101 Patent. See, e.g.:



EX-1004 Fig. 1 (annotated).

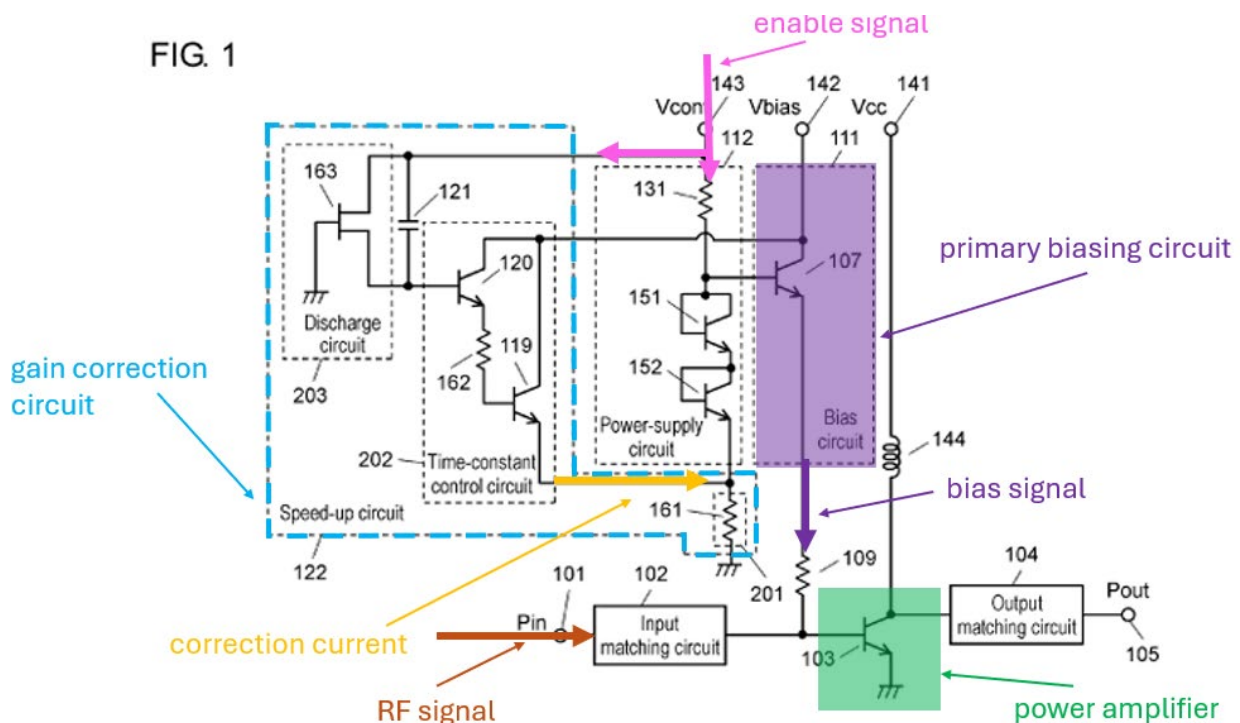
Ex-1003 ¶ 38 (annotating *Ishimaru*); see also ¶¶ 38-41; EX-1004 Figs. 1-3, ¶¶ 24, 50-51, 54.

As can be seen in the annotation above, *Ishimaru* uses its collector current as its output that serves as a “correction current” correcting the operation of the rest of the circuitry (i.e. the downstream primary biasing circuit/bias current/power amplifier).

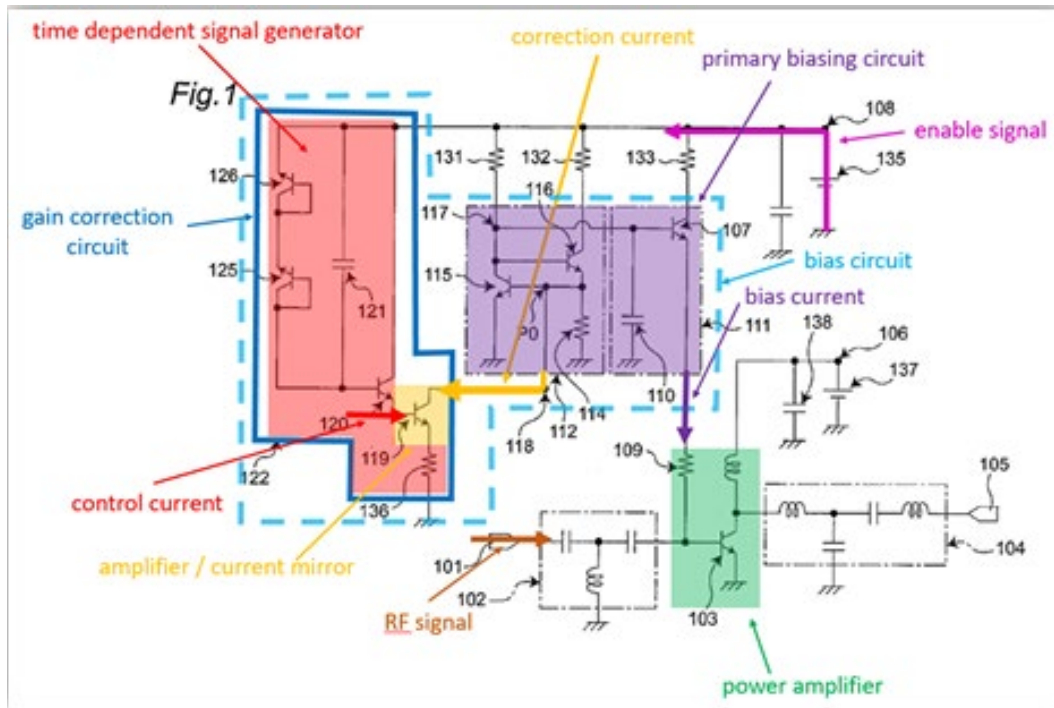
In *Wakita* Figure 1, in contrast, the emitter is the output that controls the rest of the circuit, but the emitter is not mirrored. The collector current in *Wakita*

Figure 1, on the other hand, is just attached to the power supply; it is neither the output of the circuit, nor a “correction” current at all. As explained, and corroborated with at least *Gilbert*, a BJT (or combination of BJTs) only operates as a current mirror when its *output* current (i.e. the emitter of BJT 119 and/or 120 in *Wakita*) replicates, i.e. mirrors, an *input* current (i.e. a base current into BJT 119 and/or 120). *Id.* None of the transistors in *Wakita*’s Figure 1 generate the correction current identified by the Examiner through mirroring.

It should be readily apparent that the circuit of Figure 1 of *Wakita* is different than the circuit shown in Figure 1 of *Ishimaru*, and the Examiner’s mapping of Claim 1 on *Wakita* is different than the circuit structure present in *Ishimaru* as shown below:



EX-2011 (*Wakita*) Fig. 1 (annotated here based on Examiner's rejection).



EX-1004 (*Ishimaru*) Fig. 1 (annotated in Petition); Pet. 5.

While the Patent Owner turns to Figure 6 of *Wakita* to assert that that part of *Wakita* is substantially similar to Figure 1 of *Ishimaru*, the Examiner only mentions Figure 6 in passing, without affirmatively relying on any aspect of Figure 6 for any part of the rejection in the '563 Prosecution History (again, neither *Ishimaru* nor *Wakita* was part of the '101 Prosecution History). The Examiner in the '563 Prosecution History did not map any claim element to Figure 6 of *Wakita*. Instead, all claim mapping by the Examiner was with respect to Figure 1 of *Wakita*. Patent Owner, as the applicant, agreed at the time, as it confirmed in its own characterization of the rejection in its response, which likewise discussed only

Figure 1 of *Wakita*, not Figure 6: “In rejecting prior claim 1, **the Office Action asserted that elements 111, 112, and/or 203 shown in Figure 1 of *Wakita*** (reproduced below) can be read as the claimed bias circuit or its functional equivalent. (Office Action at 3).” EX-1030 057-066, at 064 (May 16, 2017 Resp. to Office Action) (emphasis added). Furthermore, the Examiner’s understanding of *Wakita* reflected by the Examiner’s mapping of claim elements to Figure 1 cannot be simply ported over to *Wakita* Figure 6, as the circuits are materially different. Thus, as demonstrated above, neither the *Ishimaru* reference nor *Wakita* Figure 6 was meaningfully considered by the Examiner in the ’563 Prosecution History. Instead, the Examiner focused its rejection on Figure 1 of *Wakita*.

In response to the Examiner’s rejection, Patent Owner amended the independent claims to add the mirroring limitation (“to mirror the control current to generate a correction current”). EX-1030 057-066 (May 16, 2017 Resp. to Office Action) at 058-061. The Patent Owner also made at least two arguments for patentability. *Id.* at 063-065. The first argument to the Examiner was that *Wakita* did not disclose the bias circuit limitations:

However, Wakita does not disclose or suggest “a bias circuit configured to receive the power amplifier enable signal and to generate the bias signal, the bias circuit including a gain correction circuit configured to generate a control current in response to activation of the power amplifier enable signal and to mirror the control current to generate a correction current, and a primary biasing circuit configured to generate the bias signal based on the correction current and the power amplifier enable signal,” as recited in claim 1.

*Id.* at 064. Note that Patent Owner identified all elements of the bias circuit and did not specifically state that it is the “mirror the control current to generate a correction current” limitation that is missing. *Id.*

Patent Owner’s second argument was that *Wakita* was not prior art to the ’101 Patent. *Id.* at 064-065. For example, applicant emphasized:

Moreover, Applicant respectfully asserts that **Wakita does not qualify as prior art**. For example, the Office Action indicates that the “present application is being examined under the pre-AIA first to invent provisions.” (Office Action at 2). However, *Wakita* does not appear to qualify as prior art under any section of pre-AIA 35 U.S.C § 102.

*Id.* at 064 (emphasis in original). Applicant went on to explain that *Wakita* claims priority to a PCT application and a Japanese patent application, but these priority applications were not filed in English and thus *Wakita* is not entitled to their priority date and thus does not qualify as prior art under 102(e). *Id.* at 064-065 (citing pre-AIA 35 U.S.C. 102(a), (b), and (e), as well as MPEP § 706.02(a)(2)).

Notably, although applicant was aware of *Ishimaru* at the time — *i.e.* a

much more pertinent reference that *did* qualify as prior art —, applicant did **not** mention *Ishimaru* in its response, explain its significance, or explain to the Examiner that it could not make the arguments it was making about *Wakita*'s prior art status with respect to *Ishimaru*. Applicant did not address *Ishimaru*'s single-BJT current mirror, discuss how single BJT's can be configured as current mirrors as *Ishimaru* does, nor cite any public treatises such as *Gilbert* (EX-1012 at, e.g., pp. 243, Figs. 6.1a, 6.2a, 6.4) that discuss single-transistor mirrors. Instead, applicant chose – on the same day – to quietly slip *Ishimaru* into the prosecution record of the '563 Prosecution History via an information disclosure statement, while submitting claims and making arguments that did not distinguish *Ishimaru*.

In the next Office Action, the Examiner correctly withdrew the rejections based on non-prior art *Wakita*. The Examiner only issued a double patenting rejection, and did not provide any explanation for why it withdrew the rejection over *Wakita*. It appears that the Patent Owner was successful in convincing the Examiner that *Wakita* was not prior art. For the same reason, one cannot include *Wakita*'s teachings in the Examiner's subsequent statements, including in the notice of allowance, as to what was taught in the prior art — as Patent Owner had already established, *Wakita* did **not** qualify as prior art. EX-1030 064-065.

Nowhere in the prosecution history of the '563 Patent — or the '101 Patent — did the Patent Owner argue (or the Examiner find) that any current mirror or

mirroring in its claims

- excluded a single-BJT current mirror;
- excluded current mirrors or mirroring unless they had some specific number of transistors, connected in a particular way;
- required mirroring using two or more transistors; or
- required mirroring using two or more transistors having their base or gate terminals tied together.

See EX-1030 and EX-1002. In contrast, the Patent Owner was content with allowing examination in the '563 Prosecution History to focus on *Wakita* Figure 1, and the unremarkable, correct belief that the circuit 202 (and its transistors 119 and 120) in that figure did not mirror an input current to an output current. Indeed, Petitioner agrees – as explained above using *Gilbert*, there is no current mirror that generates a correction current in the 202 circuit of *Wakita* Figure 1. The problem is that the Examiner never addressed these issues in the prosecution history of either the '101 or '563 Patent, with respect to the much more important prior art reference, *Ishimaru*. The prosecution history missed the current mirroring performed by *Ishimaru*'s BJT 119 to provide a correction current to adjust a primary biasing circuit to provide a boost in bias current that addresses the same problem in the same way as the purported invention. Patent Owner, as Applicant, was content to silently slip *Ishimaru* into the record of the '563 prosecution history

when the reference clearly *is* prior art and clearly *does* have a current mirror, for all the reasons evidenced by the Petition. Thus, the Examiner never realized that the *Ishimaru* reference sitting on the IDS contradicted Applicant's response to the office action concerning *Wakita* Figure 1. As such, the arguments before the Examiner during prosecution of the '563 Patent do not weigh against the merits of *Ishimaru*, nor do they support the overly narrow claim construction that Patent Owner advances.

And that is before considering Ground 2, where the Petition shows — unlike anything in the prosecution history — why a POSA would have also been motivated to combine *Ishimaru* with *Harrison*, rendering the claims invalid under Patent Owner's unduly narrow claim construction.

Thus, the Petition presents an overwhelming case of invalidity, and the PO Request's attacks on the strength of the merits of the Petition falls flat.

In summary, when the particular circumstances of the stayed Parallel District Court Litigation and the Parallel ITC Investigation are taken into account, Factor 6 strongly favors institution.

**B. The Likelihood of a Stay Under *Fintiv* Factor 1 Favors Institution**

The Parallel District Court Litigation has been stayed. As discussed above with regard to Factor 6, the ITC may not reach the invalidity issue and even if it does, will not bind the District Court. Thus, the District Court will address the

invalidity issue over a year after the Board will have addressed invalidity in the present proceeding. Due to the uncertainty associated with whether the ITC will address validity, and its inability to preclude the invalidity issue from the District Court, this factor favors institution.

**C. The Proximity to the Court’s Trial Date Under *Fintiv* Factor 2 Favors Institution**

Factor 2 favors institution because the AIA is meant to provide an alternative venue for district court litigation. With the Parallel District Court Litigation stayed, any decisions by the PTAB will be far in advance of the issue of prior art invalidity being taken up in parallel District Court litigation. Turning to the Parallel ITC Investigation, this factor is at worst neutral because the target date at the ITC is just that—a target. The ALJ or the Commission may extend the target date and extensions of the target date are fairly common. In addition, the final decision by the Commission is subject to the 60-day Presidential review period, which itself is subject to further extension. And again, the final determination need not reach prior art invalidity and if it does, is not binding on the courts or agencies. Thus, this factor is at worst neutral for Petitioner, even if one were to consider the schedule of the ITC investigation.

Moreover, Patent Owner significantly contributed to delaying Petitioner’s ability to prepare and file IPRs on the two patents that are currently asserted. In

July 2024, Patent Owner asserted five patents in its Complaint in the time-intense venue of the ITC, pressing Petitioner's resources for nearly five months before dropping one patent, another two months to drop a second patent and another two months to drop the third patent. That was an overwhelming ambush that caused Petitioner to waste substantial resources defending against the dropped patents. It is now inequitable for Patent Owner to turn around and complain that Petitioner should have filed this particular Petition sooner. PO Req. 15-16.

Moreover, the Board has consistently found this factor nondeterminative. *Fintiv* instead requires a "holistic view of whether efficiency and integrity of the system are best served by denying or instituting review." *Fintiv*, Paper 11 at 6. In *Netnut Ltd., v. Bright Data Ltd.*, trial was scheduled six months before the expected final written decision yet the Board instituted review, noting the "strong showing on the merits in the Petition and relatively minor investment in the merits of the validity challenge in district court." IPR2021-01492, Paper 12 at 9-16 (PTAB Mar. 21, 2022). The Board similarly instituted review in *Coolit Sys., Inc. v. Asetek Danmark A/S*, IPR2021-01195, Paper 10 at 9-14 (PTAB Dec. 28, 2021) and *Micron Tech., Inc., v. Vervain, LLC*, IPR2021-01550, Paper 11 at 9-13 (PTAB April 11, 2022), where trial was five months and three months before final written decisions, respectively. Here, as noted above in Factor 6, the ITC may not even reach the issue of prior art invalidity, making this factor even less determinative

than in *Netnut*, *Coolit*, and *Micron Tech*.

It is also noted that Petitioners in those cases also did not submit a *Sotera*-style stipulation as Petitioner has served here. *See Netnut*, Paper 12 at 9-16 (no stipulation); *Coolit*, Paper 10 at 9-14 (*Sand Revolution* stipulation); *Micron*, Paper 11 at 9-13 (same).

**D. The Investment in the Parallel Proceedings Under *Fintiv* Factor 3 Is Neutral**

While the parties have expended resources on the validity challenge in the Parallel ITC Investigation, they have not done so in the Parallel District Court Litigation, which will remain in its infancy when the Final Written Decision is due in this proceeding. This factor is mitigated for the reasons discussed with respect to Factor 6 including that the ITC may never reach the invalidity issue, any ITC invalidity ruling will not prevent litigating the same issues in the Parallel District Court Litigation, and due to the condensed timeline and the greater number of issues to consider at the ITC than in the PTAB, the validity assessments of Grounds 1 and 2 will not get the same attention and focus that they will receive in the current IPR proceeding. For the same reasons discussed in the next factor, this factor is also mitigated by Petitioner's good faith reliance on the operative policies of the USPTO at the time it prepared its defensive invalidity strategy, Petitioner's streamlining of its prior art invalidity defenses in the ITC action in reliance on

those policies, and the efficiencies that Patent Owner has already reaped as a result.

**E. The Lack of Overlap Under *Fintiv* Factor 4 with any District Court Litigation Favors Institution**

The Petitioner has eliminated the risk of overlap between this proceeding and the Parallel District Court Litigation by stipulating that the Petitioner will not pursue the grounds raised in the Petition or any other ground that Petitioner could have reasonably raised in this proceeding in the Parallel District Court Litigation. *Sotera*, Paper 12 at 18-19. Furthermore, Petitioner stipulates that it will not pursue combinations of the references in the Grounds in this Petition with non-printed publication or patent prior art (e.g. “system” or “on-sale” prior art), and will not pursue non-printed publication or patent versions of the references of the Grounds raised in the Petition, in the Parallel District Court Litigation. For example, Petitioner stipulates that if a reference used in the grounds of this IPR, such as *Ishimaru*, also exists in a form that constitutes prior art in a category that could not have been raised in an IPR proceeding due to the restriction to “prior art consisting of patents or printed publications” under 35 U.S.C. §311(b), Petitioner will not pursue in the Parallel District Court Litigation such other forms of the reference in such other categories of prior art. The Board and district court will therefore avoid inefficiently addressing the same grounds or prior art raised in the Petition, other forms of that art, and also printed publications and patents that reasonably could

have been raised, thereby avoiding inefficiencies in parallel district court litigation and eliminating the possibility of binding, conflicting decisions with the district court. *See id.*; *see also Fintiv*, Paper 11 at 12-13.

As to the ITC action, as already explained, any invalidity finding in the ITC is speculative, and in any event will bind neither the PTAB nor the district court. *Certain Unmanned Aerial Vehicles*, at 37 (“The Commission’s invalidity determinations in patent cases, in contrast, are for purposes of adjudicating whether or not a Section 337 violation has occurred, and are not binding on the PTO, federal courts, or other tribunals, even if affirmed by the Federal Circuit.”); *Hyosung TNS Inc. v. Int’l Trade Comm’n*, 926 F.3d 1353, 1358 (Fed. Cir. 2019).

Furthermore, any overlap in issues was expressly acceptable when Petitioner developed its defensive strategy leading up to the filing of the instant petition on January 14, 2025. At the time that Petitioner developed and invested substantial time and energy in its IPR and ITC defensive strategy, Petitioner relied on the operative rules, regulations and guidance of the PTAB. At that time, an ITC case was definitively excluded from being a basis to deny a petition under *Fintiv*. K. Vidal, *Interim Procedure For Discretionary Denials in AIA Post-Grant Proceedings With Parallel District Court Litigation*, June 21, 2022 (guidance for *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11, at 6) (PTAB will not discretionarily deny petitions based on applying *Fintiv* to a parallel ITC

proceeding). That guidance was only revoked in March, 2025 – two months after the instant petition was filed, and long after Petitioner had set its course of action in mounting its prior art invalidity defenses. Under the prior policy operative at the time, Petitioner maximized efficiencies in good faith by largely streamlining its ITC prior art defense to those presented in the PTAB, dropping multiple prior art grounds that were not advanced in the PTAB. Indeed, Patent Owner has already reaped the benefits of Petitioner’s strategy: it has already avoided the need to expend resources analyzing significantly different prior art in the two forums, and it has already avoided Petitioner’s other available prior art challenges that Petitioner streamlined out of the ITC case. It now seeks what would be a windfall via a discretionary denial: avoiding having to face an invalidity challenge on the best prior art by the “lead agency” handling prior art challenges, while laying waste to Petitioner’s one shot of filing a winning IPR during the 1-year time bar, effectively forever precluding Petitioner from filing an IPR on this patent. That would be fundamentally unfair.

Thus, while there is overlap in the invalidity issues at the ITC, that should be given little weight, given that the ITC may not even reach the issue of prior art invalidity, the ITC cannot issue invalidity rulings that are binding on the courts or this agency, any ITC finding on invalidity has no legal effect on the Parallel District Court Litigation that would take up invalidity anew regardless, and any

overlap is a by-product of Petitioner justifiably relying on the operative guidance of the former Director of the USPTO.

**F. The Overlap in Parties Under *Fintiv* Factor 5 Is Neutral**

Under factor 5, Petitioner is a respondent in the Parallel ITC Investigation and a defendant Parallel District Court Litigation. There are other non-affiliates of Petitioner named as respondents and defendants in those proceedings. Nothing within *Fintiv* suggests that the same party between the proceedings weighs in favor of discretionary denial. See *HP Inc. v. Slingshot Printing LLC*, IPR2020-01084, Paper 13 at 9 (having the “same parties as parallel proceeding” makes factor 5 “neutral”)).

**G. Summary**

When viewed holistically, the timing of the present Petition is reasonable, there is uncertainty of whether the ITC will reach the invalidity issue in the Parallel ITC Investigation, any ruling from the ITC cannot preclude prior art invalidity litigation in the Parallel District Court Litigation, the Parallel District Court Litigation remains stayed in its infancy (pre-answer) and thus is far behind the PTAB schedule, and the Petition provides an overwhelming case of unpatentability. Under these circumstances, the efficiency and integrity of the IPR process and the Congressional intent of the AIA is best served by instituting review.

#### **IV. The Board Should Not Deny Institution Under 35 U.S.C. § 325(d)**

When determining whether to exercise discretion under Section 325(d), “the Board uses the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims.” *Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6, p. 8 (Feb. 13, 2020) (designated: March 24, 2020).

To be clear, the same or substantially the same art and arguments were not previously presented to the Office. Ground 1 relies on *Ishimaru* and Ground 2 relies on *Ishimaru* in view of *Harrison*. None of these references, *Alone* or in combination, were before the Examiner during prosecution that led to the ’101 Patent. The PO Request focuses almost exclusively on the *Ishimaru* reference individually, and does address the combination with *Harrison* specifically recited in Ground 2.

Unlike the ’563 Prosecution History (which had not occurred yet when the application for the ’101 Patent was being examined), *Ishimaru* and *Wakita* were completely absent from the ’101 Prosecution History. *Ishimaru* was **not** disclosed

in an IDS during prosecution that led to the '101 Patent, and thus even under the Board's recent *Ecto World* precedential decision, prong 1 is not satisfied. *Ecto World, LLC v. RAI Strategic Holdings, Inc.*, IPR2024-01280, Paper 13 (May 19, 2025) (designated: May 19, 2025). Contrary to Patent Owner's intimation, nothing in the '101 Prosecution History involves the Examiner discussing, applying, or otherwise meaningfully addressing *Ishimaru's* disclosure, and none of the arguments set forth in the Grounds were before the Examiner during prosecution. *Tianma Microelectronics Co., v. Japan Display Inc.*, IPR2021-01058, Paper 16 at 21, 31 (PTAB Jan. 5, 2022).

The PO Request nonetheless asserts that "The first part of the *Advanced Bionics* framework is satisfied because Petitioner's arguments are substantially the same as those traversed during prosecution of the application that led to the '101 patent." PO Req. 25. Specifically, the Patent Owner relies on Ex. 2009 (*Alon*), Field Effect Transistor (FET) 204 as the basis of its argument. PO Req. 25-27. Referencing the figure below and quoting parts of an office action, Patent Owner argues that "As shown in annotated Figure 2 of *Alon* below, the Patent Office contended that "device 204 [yellow] can be read as the claimed current amplifier" configured "to amplify the control current [207, blue] to generate a correction current (206 [green])", (PO Req. 27):

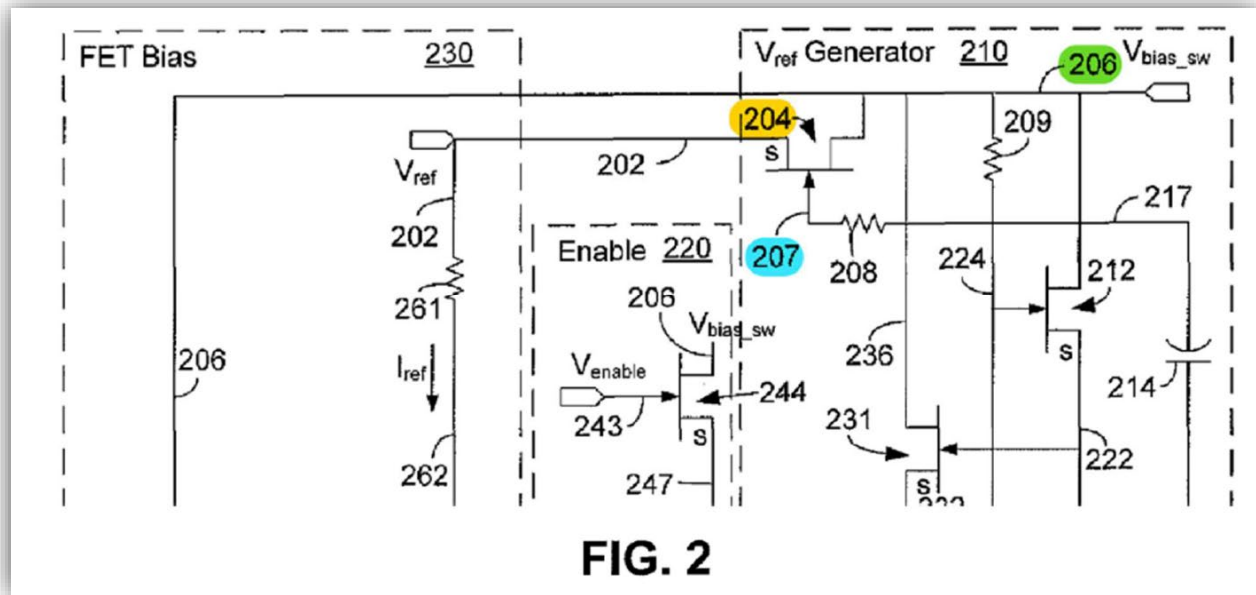


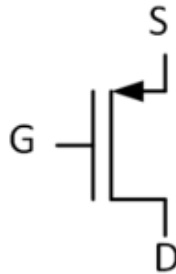
FIG. 2

PO Req. 27 (PO annotating *Alon*, Fig. 2).

From there, PO takes the leap that the “Patent Office already considered whether the Challenged Claims of the ’101 patent would have been obvious over a circuit substantially similar to Ishimaru.” PO Req. 29.

Patent Owner is far from correct. Patent Owner overlooks that transistor 204 in *Alon* is a *Field Effect Transistor*. EX-2009 5:48-49 (“The V<sub>ref</sub> generator 210 includes a field effect transistor (FET) 204”). *Alon* never refers to 207 as having a current, and for good reason — FETS are biased by voltages on their gates; not currents. As explained by Patent Owner’s own technical expert, Dr. Wentzloff:

27. A Metal-Oxide-Semiconductor Field-Effect Transistor (MOSFET) is another type of semiconductor device with three terminals: a gate (G), a source (S), and a drain (D).

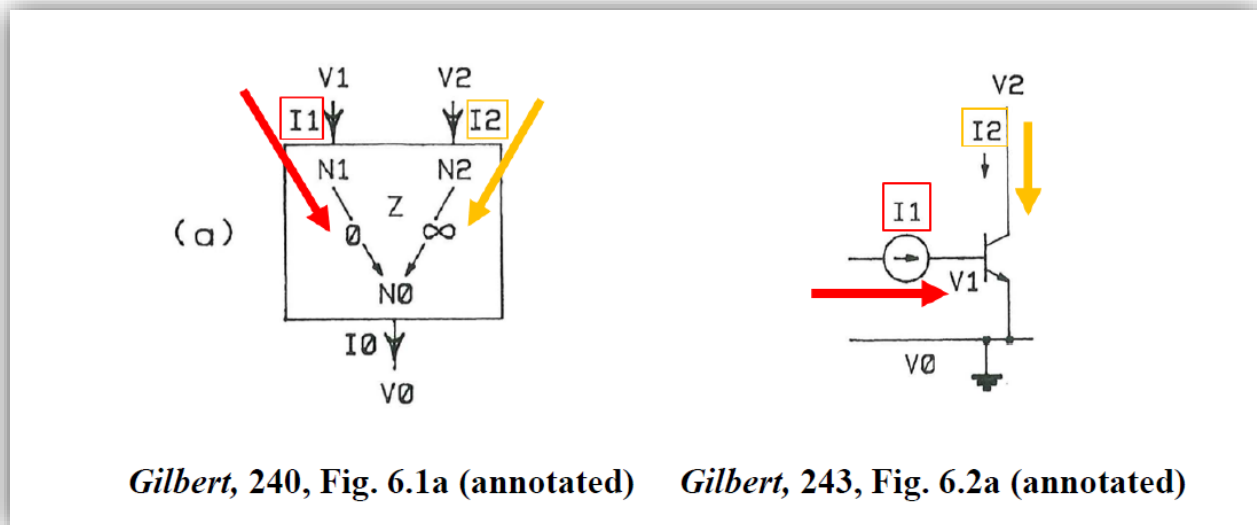


A MOSFET transistor operates by using a voltage difference applied between the gate (G) terminal and the source (S) terminal, which is called the gate-source voltage, to control a current flowing between the drain (D) and source (S) terminals.

EX-1026 at 078 (Expert Declaration of Dr. Wentzloff, attached to Patent Owner's Markman Brief in ITC) (yellow highlighting added). As the current through a FET is not controlled by an input current, but rather a voltage applied to its gate (*id*), it is impossible to form a single transistor current-mirror from a FET.

*Alon's* FET that was at issue is thus critically different than anything in the Grounds of the Petition. This is readily apparent from the discussion at EX-1003 (Ricketts Decl.) ¶¶ 61-73, 134-139 and, e.g., EX-1012 (*Gilbert*) discussed in the Petition. For example, *Alon's* FET (which lacks an input current at its gate), cannot perform the mirroring described by *Gilbert* for BJT transistors and

appearing in *Ishimaru's* BJT transistor:

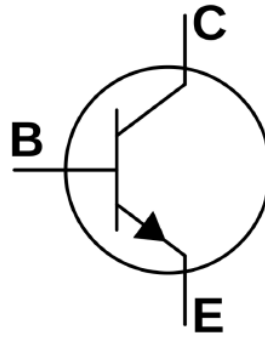


EX-1003 ¶¶ 67-68.

In the figures above, it is the base current  $I_1$  (red arrow) into the base of a BJT that is replicated and scaled by the “mirror ratio,  $M$ ” in the form of a BJT’s “common emitter current-gain,  $\beta$ ”, such that the collector current (yellow in Fig. 6.2a) that is a replica, scaled by  $\beta$ , of the base current (red in Fig. 6.2a). *Id.* (citing EX-1012, EX-1015).

Patent Owner’s expert agrees. Dr. Wentzloff contrasts the operation of FETs from BJTs:

26. A bipolar junction transistor (BJT), shown in the figure below, is one type of semiconductor device with three terminals: an emitter (E), a base (B), and a collector (C).



It operates by using a small current going into the base (B) of the transistor to control a larger current flowing from the collector (C) to the emitter (E). The voltage difference between the base (B) and emitter (E) is called the base–emitter voltage. The voltage difference between the collector (C) and emitter (E) is called the collector–emitter voltage. The current ( $I_E$ ) at the

emitter is the sum of the current ( $I_C$ ) at the collector and the current ( $I_B$ ) at the base, or  $I_E = I_C + I_B$ .

EX-1026 at 078 (Expert Declaration of Dr. Wentzloff, attached to Patent Owner’s Markman Brief in ITC).

As explained by Dr. Wentzloff, a BJT “operates by using a small current going into the base (B) of the transistor to control a larger current flowing from the collector (C) to the emitter (E).” *Id.* It is this control based on the small base current to create the larger current flowing into the collector that allows it to have the special ability to mirror the input current to an output current, taking the current

mirror form described by *Gilbert* (EX-1012 240, Fig. 6.1a) and Gray (EX-1013 Fig. 4.1a). See EX-1003 ¶¶ 63-70.

In contrast, *Alon*'s FET does not have a common emitter current-gain,  $\beta$ , like *Ishimaru*'s BJT does. *Alon*'s FET does not replicate an input current as an output current like *Ishimaru*'s BJT does. *Alon*'s FET is not a current mirror. However, that has nothing to do with *Ishimaru*'s BJT being a current mirror. Indeed, Gilbert's entire treatise is directed to BJTs, as apparent from the title "Bipolar Current Mirrors" and his description of "the unique properties of" BJTs having "opened the door to efficient and eminently practical forms of mirrors." EX-1012 011.

Thus, it is not surprising that nowhere in the prosecution history did the Patent Owner argue (or the Examiner find) that the current mirror and current mirroring of its claims:

- excluded single-BJT current mirrors;
- excluded current mirrors or mirroring unless they had some specific number of transistors, connected in a particular way;
- required mirroring using two or more transistors; and
- required mirroring using two or more transistors having their base or gate terminals tied together;

EX-1002, generally.

Indeed, Petitioner agrees that the claim amendment during the prosecution of the '101 Patent distinguished *Alon*'s FET 204 — but that is because, as a FET controlled by voltage, the FET is *not* a current mirror. Critically, however, that has nothing to do with the number of transistors involved, or whether their gates were tied together. It is simply because a FET does not mirror an input current to an output current. It cannot. While the Examiner referred to FET 204 as potentially being considered some sort of current amplifier (perhaps thinking of some sort of miniscule leakage current at its gate), because the current out of a FET is controlled by a voltage at its gate, not a current input into its gate, that there is no *replication* (even of a leakage current), i.e. no *mirroring* of a FET input current to generate a FET output current, much less mirroring of a control current to generate a correction current.

As such, the prosecution history in the 101 patent concerning *Alon* is irrelevant to the invalidity grounds presented in the Petition. *Ishimaru* was neither before the Office, nor was anything that was “substantially similar” to *Ishimaru*'s BJT-based current mirror, before the Examiner. The Section 325(d) request fails at

prong 1 (*Advanced Bionics Step 1*).<sup>10</sup>

Under prong 2 (*Advanced Bionics Step 2*), to the extent the Examiner would have required, based on *Alon*, that the claims at issue be limited to only current mirrors existing with multiple transistors, that would have been a material error. But, nothing in the record reflects what Patent Owner wants it to reflect. In any event, any such findings hypothesized by Patent Owner, would be manifest error in view of the evidence of the BTJ transistor of *Ishimaru*, as connected and disclosed by *Ishimaru* undeniably mirrors a control current to generate a correction current. That structure not only satisfies reasonable portion of Patent Owner's claim construction, but is art-recognized as constituting a current mirror, as evidenced by Barrie Gilbert's treatise. The Board should readily dispense with Patent Owner's

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<sup>10</sup> Furthermore, any remaining appearance of similarity lacks substance. Some overlap in art or arguments is inevitable due to the challenged claims themselves: "some overlap . . . will likely always occur because the same claims are being analyzed." *CallMiner, Inc. v. NICE Ltd.*, IPR2020-00221, Paper 11 at 32 (P.T.A.B. Jun. 17, 2020) ("Viewing the prior art through the lens of the claims would usually produce similarities in arguments, even in the case of a broad claim reading on multiple types of prior art, with similar arguments being made that aspects of the prior art teach or suggest the same claim elements.").

arguments to the contrary, and take up the merits of *Ishimaru* by instituting this IPR.

## **V. Conclusion**

The timing of the present Petition is reasonable, there is uncertainty of whether the ITC will reach the invalidity issue in the Parallel ITC Investigation, there is no overlap between Grounds in the present IPR and the Parallel Court Litigation due to the *Sotera* stipulation, and the Petition provides an overwhelming case of unpatentability based on a combination of references and arguments not previously before the Office. Under these circumstances, the efficiency and integrity of the IPR process is best served by instituting review.

The Board should decline to exercise its discretion and grant institution of review of all Challenged Claims.



**CERTIFICATION OF WORD COUNT**

Pursuant to 37 C.F.R. § 42.24, Petitioners certify that the word count of  
Petitioners' Opposition to Patent Owner's Request for Discretionary Denial  
(exclusive of any table of contents, table of authorities, mandatory notices under §  
42.8, certificates of service and word count, and list of exhibits or claim listing) as  
measured by Microsoft Word is 9767, which is less than 14,000.

Dated: May 22, 2025

By:     /John M. Baird/      
John M. Baird, Lead Counsel  
USPTO Reg. No. 57,585

**CERTIFICATE OF SERVICE**

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105(a), the undersigned certifies that on a copy of the foregoing Petitioner's Opposition to Patent Owner's Request for Discretionary Denial was served by electronic means to counsel of record in the present IPR.

Date: May 22, 2025

By: /John M. Baird/  
John M. Baird, Lead Counsel  
USPTO Reg. No. 57,585

DM2/21481680