

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INCORPORATED,
Petitioner

v.

PARKERVISION, INC.,
Patent Owner

Case IPR2024-00934
Patent 7,496,342 B2

**PETITIONER'S OPPOSITION TO
PATENT OWNER'S MOTION TO EXCLUDE**

TABLE OF CONTENTS

I.	Exhibit 1042 and 2039 EX. 1 Are Admissible	1
	A. PO Has Had Ample Opportunity to Respond to Dr. Galton’s Second Declaration.....	2
	B. Dr. Galton’s Second Declaration Is Responsive to the POPR	6
	C. Dr. Galton’s Second Declaration Does Not Present New Legal Theories.....	6
	D. Dr. Galton’s Second Declaration Is Not Required for <i>Prima Facie</i> Obviousness.....	7
	E. PO’s Complaints Under FRE 401-402 Likewise Fall Flat.....	12
II.	Exhibit 1043 Is Admissible	12
III.	Exhibit 1046 Is Admissible	13
IV.	The Board Should Not Exclude Portions of Exhibit 1060	14
V.	CONCLUSION.....	16

LIST OF EXHIBITS

Exhibit No.	Description
TI-1001	U.S. Patent No. 7,496,342 to David F. Sorrells, et al (“the ’342 Patent”)
TI-1002	Excerpts from the Prosecution History of the ’342 Patent (“the Prosecution History”)
TI-1003	Declaration and Curriculum Vitae of Dr. Ian Galton
TI-1004	U.S. Patent No. 6,230,000 (“Tayloe”)
TI-1005-1007	Reserved
TI-1008	Complaint, <i>ParkerVision, Inc. v. Texas Instruments Incorporated</i> , 6:23-cv-00384, W.D. Tex., filed May 18, 2023
TI-1009	ParkerVision, Inc.’s Proposed Claim Constructions, <i>ParkerVision, Inc. v. Texas Instruments Incorporated</i> , 6:23-cv-00384, W.D. Tex., filed February 14, 2024
TI-1010	ParkerVision Inc.’s Responsive Claim Construction Brief, <i>ParkerVision, Inc. v. Texas Instruments Incorporated</i> , 6:23-cv-00384, W.D. Tex., filed March 27, 2024
TI-1011-1012	Reserved
TI-1013	Claim Chart For Infringement of U.S. Patent No. 7,496,342 by TI Chips, <i>ParkerVision, Inc. v. Texas Instruments Incorporated</i> , 6:23-cv-00384, W.D. Tex., filed December 6, 2023
TI-1014	Declaration of June Ann Munford
TI-1015	Declaration of Rickea McLeod
TI-1016	DeMaw, Practical RF Design Manual (Prentice-Hall 1982)
TI-1017	Reserved
TI-1018	Declaration of Maureen Honeycutt
TI-1019	Ziemer Tranter, <i>Principles of Communications, Systems, Modulation, and Noise</i> , Fourth Edition, Published 1995
TI-1020	Thomas H. Lee, <i>The Design of CMOS Radio-Frequency Integrated Circuits</i> , Cambridge University Press, 1998 (Excerpts)
TI-1021	U.S. Patent No. US 7,065,327
TI-1022	U.S. Provisional Patent Application 60/099,723 (“MacNally-Provisional”), filed September 10, 1998
TI-1023	International Publication No. WO 00/16492 (“Macnally”)
TI-1024-1027	Reserved

TI-1028	Jacques C. Rudell et al, “A 1.9GHz Wide-Band IF Double Conversion CMOS Receiver for Cordless Telephone Applications” IEEE Journal of Solid-State Circuits, Vol. 32, No. 12, Dec. 1997 2071-2088
TI-1029	Defendant Texas Instruments Inc.’s Claim Construction Brief, <i>ParkerVision, Inc. v. Texas Instruments, Inc.</i> , 6:23-cv-00384 (WDTX March 6, 2024).
TI-1030	Decision Denying Institution, <i>RPX Corp. v. ParkerVision Inc.</i> , PTAB-IPR2014-01107, Paper 7 (Jan. 8, 2015)
TI-1031	Notice of Entry of Judgement Accompanied by Opinion, <i>ParkerVision Inc. v. Qualcomm, Inc.</i> , 621 F. App'x 1009 (Fed. Cir. 2015)
TI-1032-1038	Reserved
TI-1039	Qualcomm’s Renewed Motion for Judgement as a Matter of Law, <i>ParkerVision, Inc. v. Qualcomm Inc.</i> , 3:11-cv-00719-RBD-JRK, dkt 499 (<u>MDFL December 20, 2013</u>)
TI-1040	ParkerVision’s Response in Opposition to Qualcomm’s Renewed Motion for Judgement as a Matter of Law, <i>ParkerVision, Inc. v. Qualcomm Inc.</i> , 3:11-cv-00719-RBD-JRK, dkt 516 (<u>MDFL January 24, 2014</u>)
TI-1041	Stipulation
TI-1042	Second Declaration of Dr. Ian Galton
TI-1043	Razavi, <i>A 900-MHz CMOS Direct Conversion Receiver</i> , IEEE Symposium on VLSI Circuits, Kyoto, Japan, 1997, pp. 113-114, doi: 10.1109/VLSIC.1997.623833 (“Razavi”)
TI-1044	E. Oxner, Siliconix Application Note AN72-1 “FETs in Balanced Mixers,” 1979. (“Oxner”)
TI-1045	B. Gilbert, "The MICROMIXER: a highly linear variant of the Gilbert mixer using a bisymmetric Class-AB input stage," in IEEE Journal of Solid-State Circuits, vol. 32, no. 9, Sept. 1997
TI-1046	I. Galton and C. Weltin-Wu, “Understanding Phase Error and Jitter: Definitions, Implications, Simulations, and Measurement,” IEEE Transactions on Circuits and Systems I: Regular Papers, vol. 66, no. 1, Jan. 2019
TI-1047	D. E. Johnson, J. L. Hilburn, and J. R. Johnson, Basic Electric Circuit Analysis, 7th Edition, Prentice-Hall, 1978
TI-1048	Adel S. Sedra, Kenneth C. Smith, Microelectronics Circuits, 4th Edition, Oxford University Press, 1997

TI-1049	K. R. Laker, W. M. C. Sansen, Design of Analog Integrated Circuits and Systems, McGraw-Hill, Inc., 1994
TI-1050	Cho, E. Dukatz, M. Mack, D. MacNally, M. Marringa, S. Mehta, C. Nilson, L. Plouvier, S. Rabi, “A Single-Chip CMOS Direct-Conversion Transceiver for 900MHz Spread-Spectrum Digital Cordless Phones,” IEEE International Solid-State Circuits Conference, Technical Digest, February, 1999
TI-1051	Deposition Transcript of Dr. David Ricketts, June 25, 2025
TI-1052	Email Exchange Re: Discovery
TI-1053	Content of Extranet Provided to ParkerVision
TI-1054	Second Declaration of June Ann Munford
TI-1055-1059	Reserved
TI-1060	Third Declaration of Dr. Ian Galton
TI-1061	1st Email regarding Discovery on March 3, 2025
TI-1062	2nd Email regarding Discovery on March 3, 2025

Table of Authorities

Yeda Res. & Dev. Co. v. Mylan Pharm. Inc., 906 F.3d 1031 (Fed. Cir. 2018)

Belden Inc. v. Berk-Tek LLC, 805 F.3d 1064 (Fed. Cir. 2015)

Genzyme Therapeutic Prods. Ltd. P'ship v. Biomarin Pharm. Inc., 825 F.3d 1360
(Fed. Cir. 2016)

Chamberlain Grp., Inc. v. One World Techs., Inc., 944 F.3d 919 (Fed. Cir. 2019)

Apple v. Andrea Electronics Corp., 949 F.3d 697 (Fed. Cir. 2020)

Axonics, Inc. v. Medtronic, Inc., 75 F.4th 1374, 1381 (Fed. Cir. 2023)

Rembrandt Diagnostics, LP v. Alere, Inc., 76 F.4th 1376 (Fed. Cir. 2023)

PO's Motion to Exclude (Paper 39) should be denied for the following reasons.

I. Exhibit 1042 and 2039 EX. 1 Are Admissible

Exhibit 1042 and Exhibit 2039, EX. 1 (collectively henceforth "Dr. Galton's Second Declaration") are the same document - a declaration by TI's expert, Dr. Galton, presenting a second set of circuit simulations responsive to PO's criticisms of simulations provided with the Petition that PO lodged in its POPR. These simulations were requested by PO in a discovery request that they served on TI before filing their POR. TI-1052. The discovery requests stemmed from a Board call requested by PO after Dr. Galton's original deposition during which TI offered to provide the simulations and make Dr. Galton available for an additional deposition on them, so that PO could address the simulations in its POR. Paper 18, pp. 1-2. PO filed the simulations as an exhibit to the transcript of Dr. Galton's second deposition. Exhibit 2039, Ex. 1. TI also filed the simulations with its Reply as Exhibit 1042.

Dr. Galton's Second Declaration is admissible because 1) it was requested by PO and PO had, and took, its full opportunity to depose Dr. Galton on the exhibit and address it in the POR, 2) Galton's Second Declaration contains prior art analysis responsive of PO's arguments, 3) the exhibit does not present new legal theories, nor is required for establishing *prima facie* obviousness.

A. PO Has Had Ample Opportunity to Respond to Dr. Galton's Second Declaration

PO's characterization of events and the timing of their occurrence is incorrect.

The POPR did not identify any errors in Dr. Galton's simulations.¹ Instead, the POPR simply accused Dr. Galton of "making up values and using different waveforms than those disclosed in [the prior art]...to improperly show whatever results [TI] wants." Paper 6, "POPR" at 2. Directly in response to PO's unsubstantiated accusations, Dr. Galton, on his own, ran additional simulations addressing those accusations, and was able to verify that PO's complaints did not change his opinions. TI-1042, ¶18; TI-1060, ¶5; EX-2036, 102:18-6. Indeed, the Institution Decision debunked the POPR's complaints.

In preparing for his deposition, Dr. Galton reviewed the inputs used for his earlier simulations and discovered a typographical error in his DeMaw simulation, which caused the LTSpice simulation software to call a generic JFET instead of the Siliconix U430 JFET that Dr. Galton had intended. EX-2036, 102:5-13. As Dr. Galton explained, simulating DeMaw based on the generic JFET is not wrong nor does it render the original simulations unreliable or invalid, because the generic JFET is specifically intended to be "representative of typical JFETs" and would

¹ The POPR does not even use the word "error" or "mistake."

have been used had LTSpice not also had a U430 model. TI-1060, ¶¶ 6-16 (discussing the acceptable use of “representative” JFETs). Yet Dr. Galton expected the higher performing U430 JFET would improve DeMaw’s performance of the claimed operation, and so he reran the original simulation using the U430 JFET to confirm that it did. *Id.* This was indeed confirmed by him. And when PO began to question Dr. Galton about the debunked POPR arguments at his deposition, Dr. Galton volunteered that he had confirmed the POPR’s complaints were immaterial by simulation. EX-2036, 102:18-103:6. Dr. Galton also volunteered the typographical error, explaining that it “didn’t materially change the results.” EX-2036, 44:5-45:8; *see also id.*, 102:5-6 (discussing that he found the mistake a few days before the deposition); *see also* TI-1062 (TI correcting he record pertaining to the initial offer of simulation data).

Immediately after the deposition, TI offered to provide the revised simulation output of DeMaw’s circuit using the U430 JFETs to PO and, to avoid any prejudice to PO, TI further offered another deposition of Dr. Galton on the revised simulation. TI-1061. PO initially refused. TI-1061. On March 2, 2025, PO reconsidered the offer and proposed a Board call to discuss the revised simulations and Dr. Galton’s additional simulations. TI-1061.

During the Board call, TI reiterated its offer to provide PO the revised simulations and all additional simulations, as well as an additional deposition of

Dr. Galton to ensure that PO had every opportunity to ask whatever questions it desired. *E.g.*, Paper 18 (Order on Conduct of the Proceeding) at 2. The Board instructed the parties to “work together to resolve this dispute.” *Id.* at 3. On March 6, 2025, PO served discovery on TI requesting “production of all of Dr. Galton’s additional simulations” and asked for the additional deposition that TI had earlier proposed. TI-1052 at 3. Specifically, PO requested:

1. Simulations run by Dr. Galton where he fixed the mistake of using the generic JFET model and implemented the specific Siliconix U430 model;
2. All other simulations run by Dr. Galton after reviewing the Patent Owner’s Preliminary Response, including any variations or iterations;
3. All related Python code used to generate or analyze the simulations, including any model libraries, native LTSpice files, and additional generic or supporting files necessary to replicate the simulations; and
4. Any instructions or scripts used for running the simulations, including Python-based instructions.

Id. TI fully complied. Specifically, on March 17, 2025, through Dr. Galton’s Second Declaration, TI presented the requested simulations and all other simulation output, as well as the raw data from each simulation. *Id.* TI also agreed to multiple extensions of the POR deadline (originally due February 18, 2025 extended to April 21, 2025 – over 2 months) and made Dr. Galton available for a second deposition on his Second Declaration and the other

provided materials, which PO took on April 14, 2025.

PO filed their POR citing and fully addressing Dr. Galton's Second Declaration and Dr. Galton's second deposition. *E.g.*, POR at 48-65. PO failed to provide Dr. Galton's Second Declaration its own exhibit number. Paper 18 at 3. Rather, PO included it as an exhibit to Dr. Galton's second deposition transcript. EX-2026, EX. 1. Thus, TI provided Dr. Galton's Second Declaration as EX-1042 with its Petitioner's Reply.

PO now alleges that Dr. Galton's Second Declaration is untimely and should be excluded, yet PO, themselves, served discovery requests requesting it, introduced it into the record, and cited it within PO's subsequent briefing. *E.g.*, TI-1052; EX-2039, Ex. 1; POR, 48-70. Further, as discussed above, PO has had ample opportunity to and did address the information in Dr. Galton's Second Declaration.

The Federal Circuit has recognized that “‘the introduction of new evidence in the course of the trial is to be expected in [IPR] trial proceedings’ and permissible ‘as long as the opposing party is given notice of the evidence and an opportunity to respond to it.’” *Rembrandt Diagnostics, LP*, 76 F.4th at 1384 (quoting *Genzyme Therapeutic Prods.*, 825 F.3d at 1366). To suggest now that Dr. Galton's Second Declaration is untimely is a feeble attempt to exclude probative materials that PO

recognizes as fatal to the patentability of its claims.

B. Dr. Galton's Second Declaration Is Responsive to the POPR

As explained above, Dr. Galton's Second Declaration is responsive to PO's arguments made the POPR to dispel the assertion that Dr. Galton selected values and waveforms to achieve a desired result. It is settled law that a petitioner may introduce new exhibits in response to arguments raised in a patent owner preliminary response. *E.g.*, 37 C.F.R. § 42.23(b); *Axonics, Inc.*, 75 F.4th at 1381; *Apple, Inc.*, 949 F.3d at 706-07. Moreover, Dr. Galton's Second Declaration was not prepared and introduced as supplemental information, because the POPR's arguments had been dispelled in the Decision on Institution. Yet PO requested the information to preemptively address Dr. Galton's responses to its POPR's arguments when preparing its POR. Paper 18, 1-2 (citing PO's concerns it would not have time to consider the simulations and respond).

C. Dr. Galton's Second Declaration Does Not Present New Legal Theories

TI has consistently maintained that operation of DeMaw's circuit and Macnally's circuit each render claims 18-21 obvious. TI has not moved off of that theory of obviousness since filing the Petition. Instead, Dr. Galton's Second Declaration shows various simulation permutations which all show the prior arts' circuits operation renders the claims unpatentable. In other words, Dr. Galton's

original simulations show what he opined was how a POSITA would have understood and analyzed (simulated) the prior art circuits, and his Second Declaration show that, even if the simulations were run with other values and waveforms, the prior arts' circuit operations still meet the claims. The facts here are similar to that of *Apple Inc. v. Andrea Elec. Corp.*, 949 F.3d 697, 706-07 (Fed. Cir. 2020), where the Federal Circuit differentiated between evidence in support of impermissible new theories and permissible explanations in support of original theories. Here, TI has consistently argued that the DeMaw and Macnally circuits render claims 18-21 obvious, and the simulations in Dr. Galton's Second Declaration merely augment the original simulations with additional analyses to reinforce that theory.

D. Dr. Galton's Second Declaration Is Not Required for *Prima Facie* Obviousness

The Petition, the DeMaw and Macnally references, and originally submitted information sufficed to supply a *prima facie* case of obviousness. Indeed, the present trial was instituted based on the Petition, prior art and information provided prior to institution.

The evidence establishing *prima facie* obviousness are the prior art references themselves, understood from the perspective of a POSITA. The Petition's grounds and the prior art asserted in the grounds remain unchanged. The

simulations represent analysis that *confirms* the *prima facie* case of obviousness, particularly when correctly viewed in light of the subsequent simulations performed responsive to PO's criticisms raised in their POPR. *See, e.g., Belden Inc. v. Berk-Tek LLC*, 805 F.3d at 1079 (discussing that prior art itself is sufficient to show prima facie obviousness, while declarations submitted after institution are permissible to confirm prima facie obviousness in view of PO's criticisms).

Dr. Galton stands by his original simulations as showing DeMaw and Macnally's operation satisfied the claims. TI-1060, ¶12. Dr. Galton explained, in detail in his original declaration and subsequently, the assumptions and approximations are those a POSITA would have made and why. *E.g.*, TI-1003, ¶¶ 37 (describing that modern mixers use "squared-up" oscillator signals), 46-55 (showing arithmetic derivation of Macnally circuit component values), 69 (describing that the quiescent operating point of Q1 and Q2 in DeMaw can be set via the resistor R1), 70 (describing that the "value of R1 is selected 'to give a V_{GS} of 0.8 the pinchoff voltage.' DeMaw, 196."), 74 (describing that a square wave for the LO does not alter DeMaw circuit behavior and was chosen to be able to clearly see the transition between switch ON and OFF states), 89-94 (describing sources for certain of Macnally's operating parameters); EX2036, 33:10-22 (discussing transformer parameters), 34:10-36:4 (discussing DeMaw circuit impedance), 38:14-41:12 (discussing selecting capacitor values for DeMaw simulation), 42:20-

43:10 (discussing simulating DeMaw using a squared-up local oscillator and a sinusoidal local oscillator, and offering the sinusoidal simulation results to PO), 44:6-45:46:2 (discussing simulations using U430 JFET and offering PO updated simulations), 46:10-49:1 (discussing selection of RF input signal and offering additional simulation results using variations of the RF input signal), 49:11-50:20 (discussing reasoning for bias network modeling), 51:1-13 (discussing supply voltage modeling), 54:5-55:17 (discussing calculation of charge ratio), 55:18-22 (offering Python code to PO), 64:1-21 (discussing JFET selection as not affecting “the fundamental nature of this circuit), 69:12-70:12 (discussing Macnally’s conversion gain), 72:2-16 (discussing derivation for Macnally’s circuit components for the simulations), 73:1-74:7 (discussing reasoning for simulation a bias network in Macnally), 75:7-4 (discussing input signal modulation and offering PO additional simulations using different input modulation), 79:6-10 (clarifying ideal vs non-ideal transistor conduction behavior), 80:11-3 (discussing modeling Macnally’s input signal as differential), 81:4-15 (discussing selection of input signal for Macnally simulation), 89:10-90:17 (describing reasoning behind simulating Macnally with a squared-up LO), 91:5-17 (discussing number of cycles for running circuit simulations), 94:2-95:3 (verifying impedance ratios do not affect circuit performance, and rejecting characterization of not using a 4:1 impedance ratio as a mistake), 96:18-98:1 (discussing selection of R1 for

simulations), 98:2-99:9 (discussing additional circuit simulations as the result of POPR, and offering them to PO).

Dr. Galton's Second Declaration, itself, confirms that the POPR's complaints about the original simulations were not material to showing that the DeMaw and Macnally circuits performed the claimed operations. TI-1042, ¶¶ 1, 4, 18-19, etc. Dr. Galton's Second Declaration also confirms that the simulations provided with the Petition established *prima facie* obviousness because DeMaw's circuit performs claims 18-21 when simulated using either the U430 or generic JFET models. Put differently, the new simulations were not necessary to establish *prima facie* obviousness; instead, the new simulations simply reinforced Dr. Galton's original conclusions that the DeMaw circuit renders claims 18-21 obvious, even under various operating conditions.

As mentioned above, TI's theory of unpatentability is (and has been) that DeMaw's circuit (and Macnally's circuit) renders claims 18-21 obvious. In its Final Written Decision, the Board will decide patentability based on DeMaw and/or Macnally circuits, and no others. The simulations provided by Dr. Galton after institution do not raise new theories of obviousness; rather, they represent the development of a complete record to confirm obviousness by presenting analyses and explanations of the prior art circuitry. The development of the complete record after institution, include PO's fulsome POR with its own expert analysis, is

in-keeping with due process considerations associated with conducting an IPR trial. *Genzyme Therapeutic Prods.*, 825 F.3d at 1367 (“The development of evidence in the course of the trial is in keeping with the oppositional nature of an *inter partes* review proceeding.”).

Note it had already been confirmed by the Federal Circuit that DeMaw’s mixer renders claim 18 invalid, a fact that the Board recognized in its Institution Decision. Paper 10 at 16. Thus, the DeMaw circuit by itself is sufficient evidence to establish *prima facie* obviousness of at least claim 18. As the Board correctly pointed out, Dr. Galton’s original simulations established that the “general conditions” of dependent claims 19-21 are disclosed in DeMaw. Paper 1- at 22-23. As Dr. Galton confirmed, DeMaw performs the method of claims 19-21 under a variety of operation conditions, including using different JFETs. The type of JFET for the simulation would amount to nothing more than routine experimentation for discovering optimum or workable ranges, which in this case produce nothing inventive. Paper 10 at 22-23; *see also* Paper 30 at 7 (citing Oxner, TI-1041 at 6-33; DeMaw, TI-1016 at 8, referencing Oxner). Thus, even in view of using the generic JFET in the simulation, the original simulations established the “general conditions” of claims 19-21 and confirm *prima facie* obviousness.

Dr. Galton’s Second Declaration should not be excluded pursuant to 37 C.F.R. §42.23.

E. PO's Complaints Under FRE 401-402 Likewise Fall Flat

The specific portions of Dr. Galton's Second Declaration cited by PO are admissible under FRE 401-402. For example, paragraphs 5-10 are relevant in that they provide context to the discussion of DeMaw's circuit simulations using the U430 JFET model. *E.g.*, Reply at 6, 8-17. Paragraphs 12-13 and 15 are relevant in that they provide context for the general discussion of how DeMaw performs the claimed method under various operation parameters. *E.g.*, Reply at 12. Paragraphs 153-171 and 173-174 are relevant in that they provide context to Dr. Galton's verification of the modeling and post-processing for obtaining the histogram data.

II. Exhibit 1043 Is Admissible

Exhibits, as considered by Dr. Galton when preparing his Third Declaration (i.e., TI-1060), is relevant for background and contextual information. Exhibit 1043 is not prejudicial, and are probative to the extent they support the underlying foundational knowledge of a POSITA at the time of the '342 patent. TI-1043 illustrates that low-noise amplifiers at that time were structured to input a radio frequency (RF) signal and output an amplified signal with power provided by the power supply. TI-1060, ¶ 94. Such as design was consistent with Macnally's design. Reply at 25-27. Thus, Exhibit 1043 represents the knowledge of a POSITA at that time of the common structure of a low-noise amplifier. This knowledge is

relevant to the interpretation of the information signal and inverted information signal in claim 18 since the patent contemplates the information signal being passed through a low-noise amplifier. Reply at 25 (citing TI-1001, 49:29-46). Thus, TI-1043 is admissible for its relevance to understanding the knowledge of a POSITA at that time.

III. Exhibit 1046 Is Admissible

Exhibit 1046 is admissible. “Based on the statutory scheme, the PTO’s own regulations, and prior Board decisions, the Board can rely on evidence other than just prior art.” *Yeda*, 906 F.3d at 1041 (citing 35 USC §312(a)(3) and 37 C.F.R. §42.104(b)). “The Board has recognized that non-prior art evidence of what was known ... ‘can be relied on for their proper supporting roles, e.g., indicating the level of ordinary skill in the art, what certain terms would mean to one with ordinary skill in the art, and how one with ordinary skill in the art would have understood a prior art disclosure.’” *Id.* Here, TI-1046 is a review article cited by Dr. Galton’s to illustrate mixer operation. *See e.g.*, TI-1003, ¶37; TI-1060, ¶ 136. As acknowledged by PO, mixers, including prior art such as DeMaw and Macnally, are germane to the claims of the ’342 patent. *See e.g.*, POR, 8-9, 29-33, 37, 41-54, 71, 90. Because TI-1046 is a review article cited by Dr. Galton to corroborate his explanation of mixer circuit operations disclosed by the asserted prior art as part of the proposed grounds, TI-1046 is therefore relevant as

corroborating evidence to shed light on “how one with ordinary skill in the art would have understood a prior art disclosure.” *Yeda*, 906 F.3d 1041. PO has not argued or proffered any evidence that the general understanding of circuits has changed since the effective filing date of the ’342 Patent such that TI-1046 is not representative of a POSITA’s understanding of these basic circuit concepts in the relevant time-frame. Additionally, TI-1046 is relevant to Dr. Galton’s opening and rebuttal testimony pertaining to his use of squared-up local oscillator signals in this circuit simulations. TI-1003, ¶37; POR at 42 (arguing that Dr. Galton’s simulations are problematic because of his use of a squared-up local oscillator); TI-1046 (discussion citations [12] and [42], which both describe mixers with squared-up LO’s prior to the ’342 patent priority date). Thus, TI-1046 is admissible.

IV. The Board Should Not Exclude Portions of Exhibit 1060

PO moves to exclude Paragraphs 57-58 and 114-15 of Exhibit 1060 under FRE 702-703 because PO believes that Dr. Galton’s explanation for how he arrives at the histograms showing unpatentability of the claimed discharge percentages is somehow deficient. Again, PO’s argument is merely an attempt to exclude information that is fatal to the patentability of claims 19-21. As PO admitted in the POR, “[o]n March 17, 2025, Petitioner served additional materials from Dr. Galton, including a Second Declaration (EX-2039, Ex. 1) and the native Python code used for simulations (*Id.*, Ex. 2).” POR at 39 (emphasis added). The snippets

in TI-1060 show how Dr. Galton changed the existing Python code to address Dr. Ricketts's approach to the analysis. TI-1060, ¶¶ 57-58. Paragraphs 114-115, these paragraphs describe that the same Python code was used for Macnally. Thus, PO had all of the information they needed to verify or impeach Dr. Galton's analysis. That is, PO had the original Python code as well as the changes to it. Further, any discrepancies in PO's expert's analysis were thoroughly explained by Dr. Galton in Paragraphs 54-59 of TI-1060.

Paragraphs 32, 139-140, and 145-146 are admissible and should not be excluded. Paragraph 32 is relevant for contextual and rebuttal evidence as to the conductance behavior of JFETs, including statements made by PO's expert. Reply at 1-3. Paragraphs 139-140 reinforce and provide context to statements made in Dr. Galton's Third Declaration about Ricketts's misunderstanding of sampling in the context of the '342 patent, which is a core technical issue in controversy in this IPR. TI-1060, ¶¶ 139-140. Paragraphs 145-146 are Dr. Galton's concluding paragraphs and are relevant for his attestation. For these reasons, Paragraphs 32, 139-140, and 145-146 are admissible.

V. CONCLUSION

For the above reasons, TI respectfully requests PO's motion to exclude be denied.

Respectfully submitted,

Dated August 15, 2025

/Rishi Gupta/

Joshua A. Griswold, Reg. No. 46,310

Rishi Gupta, Reg. No. 64,768

Yao Wang, Reg. No. 61,757

Patrick J. Bisenius, Reg. No. 63,893

W. Karl Renner, Reg. No. 41,265

Fish & Richardson P.C.

60 South Sixth Street, Suite 3200

Minneapolis, MN 55402

T: 202-783-5070

F: 877-769-7945

Attorneys for Petitioner

CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on August 15, 2025, a complete and entire copy of this Petitioner's Opposition to Patent Owner's Motion to Exclude and supporting documents were provided by email to the Patent Owner by serving the email correspondence address of record as follows:

Jason S. Charkow
Richard Juang
Chandran B. Iyer
Ronald M. Daignault
Stephanie Mandir
DAIGNAULT IYER LLP
8229 Boone Boulevard, Suite 450
Vienna, VA 22182

Email: pvlit@daignaultiyer.com

Attorneys for Patent Owner

/Li Feng/
Li Feng
Fish & Richardson P.C.
60 South Sixth Street, Suite 3200
Minneapolis, MN 55402
lfeng@fr.com