

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INC.,
and NXP USA, INC.,
Petitioners
v.

PARKERVISION, INC.,
Patent Owner

Case IPR2024-00935¹
Patent 7,865,177

**PETITIONER’S OPPOSITIONS TO
PATENT OWNER’S MOTION TO EXCLUDE**

¹ NXP USA, Inc., who filed a petition in IPR2024-01066, is joined as petitioner in this proceeding.

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PO's Motion to Exclude (Paper 48) should be denied for the following reasons.

I. Exhibit TI-1047 Is Admissible

PO moved to exclude Exhibit TI-1047 under FRE 401-402 (relevancy) because "it is not prior art and thus is irrelevant to the knowledge of a POSITA at the relevant time of the invention." PO's Motion, 1-2. PO also sought to exclude under FRE 901 (authentication) "because Petitioner produced no evidence to support a finding that it is what Petitioner claims it to be—description of an implementation of the Tayloe reference." *Id.*, 2-3 (further alleging "Exhibit 1047 (and Figure 130 therein) is **not** an implementation of the Tayloe reference") (emphasis original). PO's allegations are unfounded.

A. TI-1047 Is Relevant Rebuttal Evidence

"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 Research & Development Co. v. Mylan Pharmaceuticals Inc.* 906 F.3d 1031, 1041 (Fed Cir 2018) (citing 35 USC §312(a)(3) and 37 C.F.R. §42.104(b)). Indeed, "[t]he Board has recognized that non-prior art evidence of what was known 'cannot be applied, independently, as teachings separately combinable' with other prior art, but '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.* (citing *Dominion Dealer Sols., LLC v. AutoAlert, Inc.*, IPR2014-00684, 2014 WL 5035359, at *5 (P.T.A.B. Oct. 6, 2014)).

Like the evidence in *Yeda Research* and *Dominion Dealer*, TI-1047 was cited to indicate “the level of ordinary skill in the art” and to support Dr. Galton’s explanation of “how one with ordinary skill in the art would have understood a prior art disclosure,” namely, the Tayloe patent (TI-1004). *Yeda*, 906 F.3d 1041. Dr. Galton cited Exhibit TI-1047 (and Figure 130 therein) “[a]s further evidence that ‘a POSITA would know not to make the negative input resistors and the positive input resistors in summing amplifier 50 and summing amplifier 52 [of the Tayloe patent] large.’” TI-1066, ¶22.

In particular, Dr. Galton cited TI-1047 when responding to “Dr. Ricketts’ assertion that these resistors must be large.” *Compare Id.*, ¶25 (noting “the two input resistors of each of the summing amplifiers in the figure above have resistances of 100 ohms [which] are 20,000 times smaller than the 2 mega-ohm resistors that Dr. Ricketts asserted they need to be”) *with* EX2024, ¶219 (alleging “a POSITA would understand that the “+” input would have a very high resistance/impedance—millions of ohms” and “the impedance looking into the resistor of 50, 52 connected to the “+” input must also be extremely high impedance (e.g., 2 MΩ)”). Indeed, PO did not, and cannot, provide evidence that

the general understanding of circuits has evolved since the effective filing date of the '177 patent such that TI-1047 is not representative of a POSITA's understanding of these basic circuit concepts in the relevant time frame.

B. FRE 901 Is Satisfied

TI-1047 has been authenticated under FRE 901(b)(1) by Ms. Munford. Ms. Munford determined the exhibit copy of TI-1047 was the same as the corresponding entry on the Internet Archive Wayback Machine on May 8, 2006. *See* TI-1069 (Second Declaration of June Munford), ¶¶33-35 (“it is my determination that Exhibit 1047 is a true and correct copy of Norcal NC2030 Low power, High Performance 20m or 30m DC Transceiver as hosted on the Norcal QRP website”).

In seeking to exclude TI-1047, PO takes issue with Dr. Galton's introduction of “the circuit diagram...(the Norcal NC2030 transceiver TI-1047) implemented by Dan Tayloe the inventor named in the Tayloe patent,” (TI-1066, ¶39), because “[w]hile Exhibit 1047 states that Figure 130 is a ‘Tayloe quadrature detector and I/Q audio preamplifier schematic,’ it nowhere mentions the Tayloe reference nor the full name of the alleged inventor (Dan Tayloe).” PO's Motion, 2-3. However, PO ignores relevant facts such as TI-1047 says the author “came up with the idea for the detector during a 5000+ mile road trip...from Phoenix...and back home again to Phoenix” around 1998. TI-1047, 8 (“The basic design of the detector used

in this transceiver first came about in 1998”), 9 (dedicating to wife Vicki Tayloe) (emphasis added). The subject matter, the time frame, and the residence information from TI-1047 thus exactly match those of the Tayloe patent. TI-1004, Front (fields 54, 75, 22). Moreover, Dr. Galton observed that TI-1047 describes circuits highly similar to those disclosed in the Tayloe patent. TI-1066, ¶¶40-42 (comparing circuits and explaining minor differences are “cosmetic” or “no effect”). In contrast, PO did not, and could not, proffer any evidence suggesting a different Mr. Tayloe also residing in Phoenix who happen to have authored a 128-page technical document on a detector circuit that he had thought about since 1998.

Regardless, whether the article is by the same Dan Tayloe as the Tayloe patent, the article is relevant rebuttal evidence in at least that it discloses implementation details of circuits determined by Dr. Galton to be highly similar to those disclosed in the Tayloe patent. TI-1066, ¶¶40-42.

TI-1047 is thus admissible rebuttal evidence to corroborate Dr. Galton’s response to Dr. Ricketts’ testimony.

II. TI-1054 Is Admissible

PO moved to exclude TI-1054 by alleging “it is not prior art and thus is irrelevant to the knowledge of a POSITA at the relevant time of the invention” and “it is not relied upon by Petitioner and its expert and thus is irrelevant to any issue in this IPR.” PO’s Motion, 3-4. PO’s allegations are misplaced.

As explained *supra* §I, “[t]he 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.’” *Yeda*, 906 F.3d 1041 (internal citation omitted). Here, TI-1054 is a review article cited by Dr. Galton’s First Declaration to illustrate mixer operation. *See e.g.*, TI-1003, ¶42 (citing the underlying paper of TI-1054 and explaining that “for most modern practical mixer circuits perform multiplication by ‘squared-up’ oscillator signals, i.e., by oscillator signals which resemble square waves that ideally have the same mid-point crossing times as the corresponding sinusoidal oscillator signals”). As acknowledged by PO, prior art such as Razavi teaches a system including a “mixer.” *See e.g.*, POR, 66-67, 72-74, 75-76. Because TI-1054 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-1054 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 ’177 Patent such that TI-1054 is not representative of a POSITA’s understanding of these basic circuit concepts in the

relevant time frame.

Accordingly, TI-1054 is admissible.

III. Exhibit TI-1066 Is Admissible

PO moved to exclude paragraphs 39-42, 44-45, and 47 of TI-1066 (Dr. Galton's Second Declaration) under FRE 401, 402, 702, and 703 because "Dr. Galton offered opinions based on Exhibit 1047." PO's Motion, 4. According to PO, "Dr. Galton's assertions in these paragraphs that Exhibit 1047: (1) is written by the inventor of the Tayloe reference; and (2) shows an implementation of the Tayloe reference; should also be excluded under FRE802 because they are offered for the truth of the matter asserted." *Id.*, ("Dr. Galton has no personal knowledge on the truthfulness of these assertions."). PO similarly moved to exclude paragraphs 58 and 103 of TI-1066 (Dr. Galton's Second Declaration) under FRE 401, 402, 702, and 703 because they are "based on, or pertaining to Exhibit 1054." *Id.*, 5. PO also seeks to exclude paragraphs 5, 27-28, 61-64, 87-88, and 103-106 because "it is not relied upon by Petitioner and thus is irrelevant to any issue in this IPR." *Id.* PO's allegations are misinformed.

A. Paragraphs 39-42, 44-45, 47, 58 and 103 Are Admissible

As explained *supra* §§I-II, TI-1047 and TI-1054 are admissible. Hence, paragraphs 39-42, 44-45, 47, 58 and 103 of Dr. Galton's Second Declaration citing, among others, TI-1047 and TI-1054 should not be excluded. As to PO's

concern with whether TI-1047 was authored by the inventor of the Tayloe patent, Dr. Galton has also explained why the circuit is similar to the Tayloe circuit, (*see e.g.*, TI-1066, ¶¶22-25), and hence TI-1047 has probative value in that it shows a similar circuit with the noted circuit details regardless of whether it is, indeed, the same Tayloe who implemented it. The issue, as aptly put by Dr. Galton, “is not just Mr. Tayloe’s word over Dr. Ricketts’ word.” *Id.*, ¶25. Rather, “TI-1047 is a comprehensive user manual that describes how to build and use the transceiver” where “the two input resistors of each of the summing amplifiers...have resistances of 100 ohms [which] are 20,000 times smaller than the 2 mega-ohm resistors that Dr. Ricketts asserted they need to be.” *Id.*, ¶¶25, 27-28, and 30.

Paragraphs 39-42, 44-45, 47, 58 and 103 are thus admissible as rebuttal evidence to Dr. Ricketts’ testimony. *Anacor Pharm.*, 889 F.3d 1380–81 (rebuttal evidence allowed).

B. Paragraphs 5, 27-28, 61-64, 87-88, and 103-106 Are Admissible

These declaration paragraphs should not be excluded. Paragraph 5 was cited by TI. *See e.g.*, Reply at 25, 27, 34. Paragraphs 27-28 reinforce and provide context to statements made in Dr. Galton’s First Declaration about matched filtering/correlating modules requiring synchrony. TI-1003, ¶¶28, 63 (cited by Reply at 34). Paragraphs 61-64 (explaining impedance matching) and 87-88 (explaining embodiment of FIG. 95 of the ’177 patent) provide relevant technical

background information that places Dr. Galton's testimony in relevant context as foundation when rebutting Dr. Ricketts' testimony (e.g., EX2024, ¶¶187, 342). Paragraphs 103-104 explain that statements made in Dr. Galton's First Declaration (TI-1003) remain valid, which also provides relevant context for his rebuttal to Dr. Ricketts' testimony (e.g., EX-2024, ¶116). Paragraphs 105-106 are attestation paragraphs that qualify the underlying declaration as carrying the same force and consequences as a sworn statement submitted under oath. *See* 28 U.S.C. §1746.

Accordingly, paragraphs 5, 27-28, 61-64, 87-88, and 103-106 of TI-1066 are admissible.

IV. Exhibit TI-1067 Is Admissible

A. Paragraphs 16-20 Are Admissible

PO moved to exclude paragraphs 16-20 of Exhibit 1067 under FRE 702-703 "because it is unsupported by reliable facts, data, or methodology." PO's Motion, 6. PO alleged that Dr. Dickens' shunt determination "has no reliable basis." PO's Motion, 6. According to PO, "Exhibit 2011 does not provide sufficient information for calculating the impedance of [REDACTED]," and Dr. Dickens cannot "compar[e] to the impedance of [REDACTED]." *Id.* PO's allegations are unfounded.

PO overlooks, however, that Dr. Dickens' analysis is not limited to the circuit diagram of EX2011. Rather, Dr. Dickens analyzed the entirety of PO's

relevant swear behind evidence, including all circuit diagrams (EX2011-EX2013), Dr. Ricketts's claim chart (EX2015), the circuit diagrams provided by Dr. Ricketts (EX2024), [REDACTED] (EX2010, EX2022), and Sorrel's declaration (EX2016). From this analysis, Dr. Dickens explained the provided circuits and generated FIG. Dickens1 and FIG. Dickens2 that consolidate relevant portions of EX2011 and EX2015. *See e.g.*, TI-1067, ¶¶16 (citing EX2015), 18 (citing EX2022), 21-22 (explaining FIG. Dickens1 and FIG. Dickens2), 28 (noting pad labels are based on Sorrels' declaration, i.e., EX2016). Thus, based on EX2011 and additional information, Dr. Dickens determined that capacitors C67 and C68 shunt to ground.

As Dr. Dickens explains, [REDACTED] because,

[REDACTED]

which is far smaller than the [REDACTED] located on the output of the circuit of EX2011. *See* TI-1067, ¶16. Dr. Dickens thus determines that [REDACTED]

[REDACTED] *Id.*, ¶21.

Dr. Dickens has provided FIG. Dickens1 and FIG. Dickens2 that consolidate the corresponding portions from EX2011 and EX2015. If the circuit had worked, the impedance to the left of [REDACTED] in EX2011 and EX2015) is infinite when [REDACTED]

are open (as illustrated in FIG. Dickens1); and, when the switches are closed, the impedance is equal to the impedance through

(as illustrated in FIG.

Dickens2). TI-1067, ¶¶16-22 (explaining the circuit switching with reference to FIG. Dickens1 and Dickens 2 and that [REDACTED] in Dr.

Ricketts's claim chart do not conduct at the power-levels indicated by

_____”). In both instances (whether open or closed), the impedance

coupled to XXXXXXXXXXXX is much higher than the

impedance of [REDACTED]. *Id.*, ¶18 (noting “the signal

would [REDACTED]). Hence, Dr. Dickens' analysis is supported by reliable

facts, data, or methodology.

B. Paragraphs 28-33 Are Admissible

PO also moved to exclude paragraphs 28-33 of TI-1067 under FRE 401-402 because “it is not relied upon by Petitioner and thus is irrelevant to any issue in this IPR.” *Id.*, 7. PO’s allegations are misplaced.

Here, paragraphs 28-30 explain, e.g., “the differential amplifier in Dr. Ricketts tape out is not coupled to the “common mode” signals output from the mounting circuit board.” *See e.g.*, TI-1067, ¶¶28 (emphasis added), 31 (no outputting of a differential signal). This discussion provides context for adjacent paragraphs in Dr. Dickens’ declaration supporting statements made in TI’s Reply.

Reply 13-14 (noting “the signals are never combined” and “[t]he signals are directed to two different circuits and remain separated”). Moreover, paragraphs 32-33 are attestation paragraphs that qualify the underlying declaration as carrying the same force and consequences as a sworn statement submitted under oath. *See* 28 U.S.C. §1746.

Accordingly, paragraphs 16-20, 28-33 of Dr. Dickens declaration (TI-1067) are admissible.

V. Exhibits TI-1048 to TI-1049, TI-1058 to TI-1061, and TI-1064 Are Admissible

PO moved to exclude Exhibits TI-1048 to TI-1049, TI-1058 to TI-1061, and TI-1063 as irrelevant under FRE 401 to 402. PO’s Motion, 7 (“Neither Petitioner nor its expert cites or replies [sic] upon” these exhibits). PO’s allegations are unfounded.

These exhibits, as considered by Dr. Galton when preparing his Second Declaration (i.e., TI-1066), are relevant for background and contextual information. These exhibits are not prejudicial, and are probative to the extent they support the underlying foundational knowledge of a POSITA at the time of the ’177 patent. For example, TI-1048 describes switch implementations that are relevant to the claims of the ’177 patent (reciting switch) as well as the prior art (e.g., Tayloe and Razavi). TI-1049 is similarly related because it describes logic

circuits known as “transistor-transistor logic” (TTL) used by some switch implementations. The remaining exhibits, namely, TI-1058 to TI-1061, and TI-1063 describe components (e.g., resistors, filters) and circuits for wireless receivers that demonstrate the foundation knowledge of a POSITA at the time of the ’177 patent.

Accordingly, Exhibits TI-1048 to TI-1049, TI-1058 to TI-1061, and TI-1064 are relevant and hence admissible.

VI. Exhibits EX-2034 and EX-2040 Are Admissible

PO moved to exclude certain portions of Dr. Galton’s deposition transcripts, namely, EX-2034 (Dr. Galton’s First Deposition) and EX-2040 (Dr. Galton’s Second Deposition) by alleging “Dr. Galton provided answers that were non-responsive to the questions asked and irrelevant to any issues of this IPR.” PO’s Motion at 7. As discussed below, PO’s allegations are unfounded. PO effectively seeks to have Dr. Galton’s answers excluded because the additional context provided by Dr. Galton’s answers are unhelpful to PO.

Regarding lines 109:10-113:2 of EX-2034, PO alleged: “None of these tangents are responsive or relevant to any issue in this IPR.” PO’s Motion at 8. However, the record reveals Dr. Galton was responsive. *See e.g.*, EX-2034, 109:10-16 (below).

Q Are you aware of the term -- the terms
"energy" or "current," those words, being used
anywhere in Tayloe?

MR. MAGEE: Objection to form.

A I would have to go through and read it
carefully to tell you whether those words are
literally mentioned.

Regarding lines 179:21-182:19 of EX-2034, PO alleged: “Dr. Galton’s nonresponsive answer to this simple question spanned 29 lines, and gratuitously includes a surfing analogy.” PO’s Motion at 8. However, the record shows Dr. Galton explaining the notion of signal component in response to a compound question raised by PO’s counsel over the objection of TI’s counsel:

Q What's signal current? I've never
heard -- maybe I'm just ignorant. You have this
term, "signal current." Is that a determine of
art, or is that something you just made up?

MR. MAGEE: Objection to form.

EX-2034, 178:16-20; *see also* 181:1-10 (using surfing analogy to explain that “the signal of interest is the variation about the bias point”).

Regarding lines 209:18-211:2 of EX-2034, PO alleged that “Dr. Galton provided a 20 lines answer to clarify what he meant by his prior nonresponsive answer that something is ‘impossible to say.’” PO’s Motion at 8. However, the record reveals TI’s counsel requested PO’s counsel “stop putting words in his

mouth.”

Q Impossible to say means you don't know.
Like, it's okay to say you don't know something.
I don't know a lot of things.
But you literally just said, It's
impossible to say, which means you don't know by
definition. Right? Am I missing something --
MR. MAGEE: Objection. Let him finish
his answer and stop putting words in his mouth.

EX-2034, 208:10-209:14 (reproduced in part).

Regarding lines 36:8-37:5 of EX-2040, PO alleged “Dr. Galton provided a history lesson on the origin of conventional current” and “[t]he history and origin of conventional current has no bearing on whether and how conventional current is used by a POSITA. PO’s Motion at 9. However, as Dr. Galton aptly explained: “[Dr. Razavi] explicitly mentions ‘conventional’ because he’s aware -- and as is a POSITA -- that conventional current is the negative of -- of electron current.” EX-2040, 40:5-8, 41:6-9 (“there would be no other reason to put ‘conventional’ in parentheses if -- if Behzad Razavi thought that conventional current was the only type of current”).

Regarding lines 87:4-88:14 of EX-2040, PO alleged that “Dr. Galton used this opportunity to pepper the record with irrelevant information about ‘phased-lock loop’ and ‘crystal’ that may not be on a hypothetical ‘chip.’” PO’s Motion at

9. However, the record shows Dr. Galton explaining “using a...zero-IF architecture” has “nothing to do with...the transmitter” while supplementing his answer to an earlier question on single-chip implementation. EX-2040, 87:8-19 (“even this particular chip has a large off-chip capacitor”).

VII. CONCLUSION

For the above reasons, Petitioner respectfully opposes Patent Owner’s Motion to Exclude in this proceeding.

Respectfully submitted,

Dated August 12, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on August 12, 2025, a complete and entire copy of this Petitioner's Oppositions to Patent Owner's Motion to Exclude was provided by email to the Patent Owner by serving the email correspondence address of record as follows:

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