

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INC.,
Petitioner,

v.

PARKERVISION, INC.
Patent Owner.

IPR2024-00935
Patent 7,865,177 B2

Before MICHAEL R. ZECHER, BART A. GERSTENBLITH, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

GERSTENBLITH, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Texas Instruments Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of *inter partes* review of claim 14 (“the Challenged Claim”) of U.S. Patent No. 7,865,177 B2 (Ex. 1001, “the ’177 patent”). ParkerVision, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

An *inter partes* review may be instituted only if “the information presented in the petition . . . and any [preliminary] response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons given below, on this record, Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of the Challenged Claim. Accordingly, we institute an *inter partes* review of the Challenged Claim on all grounds raised in the Petition.

B. Related Proceedings

Petitioner identifies the following pending litigation involving the ’177 patent: *ParkerVision, Inc. v. Texas Instruments Inc.*, No. 6:23-cv-00384 (W.D. Tex.) (“Western District of Texas Litigation”); *ParkerVision, Inc. v. NXP Semiconductors NV*, No. 6:23-cv-00389 (W.D. Tex.); *ParkerVision, Inc. v. Realtek Semiconductor Corp.*, 6:23-cv-00374 (W.D. Tex.); *ParkerVision, Inc. v. MediaTek, Inc.*, No. 6:23-cv-00375 (W.D. Tex.); *ParkerVision, Inc. v. Qualcomm Inc.*, No. 22-1755 (Fed. Cir.); and *ParkerVision, Inc. v. Qualcomm Inc.*, No. 6:14-cv-00687 (M.D. Fla.). Pet. 83–84. Patent Owner identifies its cases pending in the Western District

of Texas against Texas Instruments, Inc.; Realtek Semiconductor Corp.; and MediaTek, Inc. Paper 7 (Patent Owner’s Updated Mandatory Notices), 2.

C. Real Parties in Interest

Petitioner identifies Texas Instruments Inc. as a real party in interest. Pet. 83. Patent Owner identifies ParkerVision, Inc. as a real party in interest. Paper 7, 1.

D. The Asserted Grounds of Unpatentability and Declaration Evidence

Petitioner challenges the patentability of claim 14 of the ’177 patent on the following three grounds (Pet. 1):

Claim(s) Challenged	35 U.S.C. §¹	Reference(s)/Basis
14	103(a)	Tayloe, ² TI Datasheet ³
14	103(a)	Razavi ⁴
14	103(a)	Razavi, Uzunoglu ⁵

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Although Petitioner contests whether the ’177 patent is entitled to its full priority claim (*see* Pet. 1), the ’177 patent was filed before March 16, 2013 (*see, e.g.*, Ex. 1001, code (22)), and, therefore, we apply the pre-AIA version of the statutory basis for unpatentability.

² U.S. Patent No. 6,230,000 B1, issued May 8, 2001 (Ex. 1004, “Tayloe”).

³ Texas Instruments, *SN74CBT3253 Dual 1-of-4 FET Multiplexer/Demultiplexer*, 1–23 (2004) (Ex. 1005, “TI Datasheet”).

⁴ B. Razavi, *A 900-MHz CMOS Direct Conversion Receiver*, 1997 Symposium on VLSI Circuits Digest of Technical Papers, 113–14 (Ex. 1017, “Razavi”).

⁵ V. Uzunoglu et al., *The Synchronous Oscillator: A Synchronization and Tracking Network*, IEEE Journal of Solid-State Circuits, Vol. SC-20, No. 6, 1214–26 (Dec. 1985) (Ex. 1026, “Uzunoglu”).

Additionally, Petitioner supports its challenge with a Declaration of Ian Galton, Ph.D. (Ex. 1003), a Declaration of June Ann Munford (Ex. 1014), a Declaration of Rickea McLeod (Ex. 1015), and a Declaration of Maureen Honeycutt (Ex. 1018).

E. The '177 Patent

The '177 patent is directed to “methods, systems, and apparatuses, and combinations and sub-combinations thereof, for down-converting an electromagnetic (EM) signal.” Ex. 1001, code (57). As pertains to the Challenged Claim, the '177 patent is directed to “a method for down-converting an electromagnetic signal” using first and second matched filtering/correlating modules to obtain first and second down-converted signals, and combining the first and second down-converted signals to output a first channel down-converted signal. *See* Ex. 1001, 194:59–195:7. Figure 148 is reproduced below:

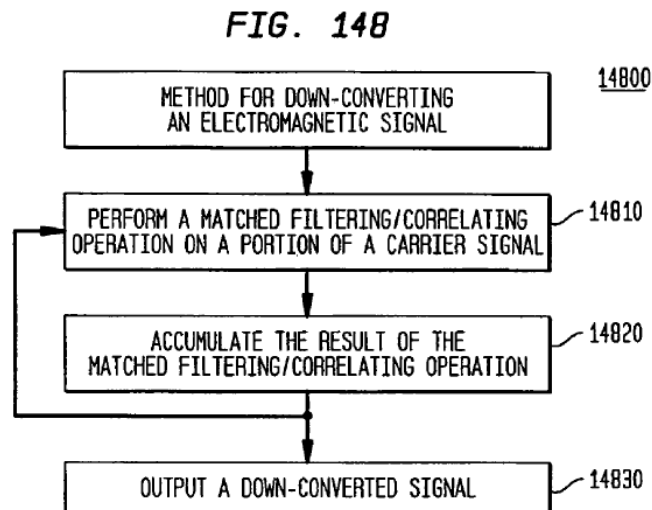


Figure 148 “illustrates a method for down-converting an electromagnetic signal . . . using a matched filtering/correlating operation.” *Id.* at 10:42–44; *see id.* at 131:14–16 (referring to Figure 148 as “example method 14800”).

Describing method 14800, the '177 patent explains that, at step 14810, a “matched filtering/correlating operation is performed on a portion of the carrier signal.” Ex. 1001, 131:17–18. “[T]he result of the matched filtering/correlating operation in step 14810 is accumulated, preferably in an energy storage device” in step 14820. *Id.* at 131:38–40. “Steps 14810 and 14820 are repeated for additional half cycles of the carrier signal.” *Id.* at 131:43–44. Then, “[i]n step 14830, a down-converted signal is output.” *Id.* at 131:50–51.

Figure 149 is reproduced below:

FIG. 149

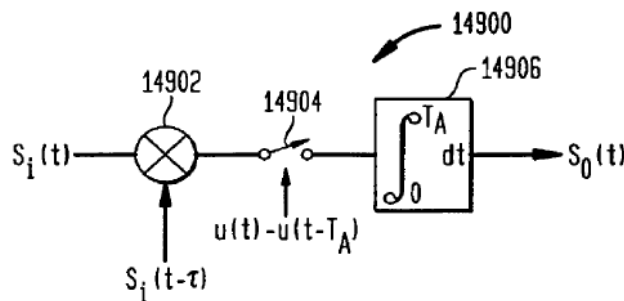


Figure 149 “illustrates a matched filtering/correlating processor.” Ex. 1001, 10:45–46. The '177 patent explains that Figure 149 illustrates “gated matched filtering/correlating system 14900, which can be used to implement method 14800.” *Id.* at 131:53–55. The '177 patent provides that,

in an embodiment, an impulse response of matched filtering/correlating system 14900 is identical to the modulated carrier signal, $S_i(t)$, to be processed. As can be seen in FIG. 149, system 14900 comprises a multiplying module 14902, a switching module 14904, and an integrating module 14906.

Id. at 131:55–60.

F. Illustrative Claim

Claim 14, the sole claim challenged in this proceeding, is reproduced below with Petitioner's bracketing added for reference:

14. [14.P] A method for down-converting an electromagnetic signal, comprising:

[14.1] receiving an input signal at a first matched filtering/correlating module;

[14.2] down converting said input signal at said first matched filtering/correlating module according to a first control signal and outputting a first down-converted signal;

[14.3] receiving said input signal at a second matched filtering/correlating module;

[14.4] down-converting said input signal at said second matched filtering/correlating module according to a second control signal and outputting a second down-converted signal; and

[14.5] combining said second down-converted signal and said first down-converted signal to output a first channel down-converted signal.

Ex. 1001, 194:58–195:7; *see* Pet. vi (indicating Petitioner's bracketing).

II. DISCRETIONARY DENIAL

Patent Owner's Preliminary Response raises one issue for our consideration—whether we should exercise our discretion to deny institution pursuant to 35 U.S.C. § 314(a). Prelim. Resp. 1. Specifically, Patent Owner contends we should exercise our discretion under 35 U.S.C. § 314(a) to deny institution “because of the advanced state of parallel litigation pending in the [U.S. District Court for the] Western District of Texas.” *Id.* Patent Owner asserts that, “[g]iven the current posture and schedule of the underlying Texas case, the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019,

Paper 11 (PTAB Mar. 20, 2020) [(Order Authorizing Supplemental Briefing on Discretionary Denial)] (precedential), . . . weigh in favor of *denying* institution of an [*inter partes* review (‘IPR’)].” *Id.*; *see id.* at 2–13 (discussing the *Fintiv* factors).

Petitioner filed Exhibit 1041, with the Petition, in which Petitioner stipulates that, if the Patent Trial and Appeal Board institutes IPR for the ’177 patent based on the soon to be filed IPR petition by [Petitioner], and only while any IPR from this petition is pending, [Petitioner] will not advance against the ’177 patent in [the Western District of Texas Litigation]: (1) the same grounds of invalidity advanced in the instituted IPR, or (2) any grounds of invalidity that reasonably could have [been] raised during the inter partes review.

Ex. 1041 (e-mail from R. Magee to J. Charkow, dated May 17, 2024).

As set forth in the Director’s Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (dated June 21, 2022), at 7, *available at* https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf,

the PTAB will not discretionarily deny institution of an IPR . . . in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.

Petitioner’s stipulation (Ex. 1041) satisfies the language from the Director’s Memorandum quoted above. Therefore, we need not analyze each *Fintiv* factor to reach the determination that we will not exercise our discretion to deny institution in view of the parallel Western District of Texas Litigation.

III. ANALYSIS

A. Legal Standards – Obviousness

The U.S. Supreme Court set forth the framework for applying the statutory language of 35 U.S.C. § 103 in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966):

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

The Supreme Court explained in *KSR International Co. v. Teleflex Inc.* that

[o]ften, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit.

550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (alteration in original))).

“Whether an ordinarily skilled artisan would have been motivated to modify the teachings of a reference is a question of fact.” *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1327 (Fed. Cir. 2016) (citations omitted).

“[W]here a party argues a skilled artisan would have been motivated to combine references, it must show the artisan ‘would have had a reasonable expectation of success from doing so.’” *Arctic Cat Inc. v. Bombardier Recreational Prods. Inc.*, 876 F.3d 1350, 1360–61 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

B. Level of Ordinary Skill in the Art

Petitioner, supported by Dr. Galton’s testimony, proposes that a person of ordinary skill in the art at the time of the invention would have had “at least a bachelor’s degree in electrical engineering or a related subject and two or more years of experience in the field of electromagnetic (EM) circuit design.” Pet. 3 (citing Ex. 1003 ¶¶ 33–35). Petitioner further proposes that “[l]ess work experience may be compensated by a higher level of education, such as a master’s degree.” *Id.*

Patent Owner does not take a position, in the Preliminary Response, on the level of ordinary skill in the art. *See generally* Prelim. Resp.

At this stage of the proceeding and on the present record, we adopt Petitioner’s uncontested, proposed level of ordinary skill in the art, which we find consistent with the level of ordinary skill in the art reflected by the ’177 patent and the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. Claim Construction

In this *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b) (2020). The

claim construction standard includes construing claims in accordance with the ordinary and customary meaning of such claims, as would have been understood by one of ordinary skill in the art at the time of the invention. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). In construing claims in accordance with their ordinary and customary meaning, we take into account the specification and prosecution history. *Phillips*, 415 F.3d at 1315–17.

If the specification “reveal[s] a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess[,] . . . the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). Another exception to the general rule that claims are given their ordinary and customary meaning is “when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Uship Intellectual Props., LLC v. United States*, 714 F.3d 1311, 1313 (Fed. Cir. 2013) (quoting *Thorner v. Sony Computer Entm’t Am., LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)).

Additionally, only terms that are in controversy need to be construed, and these need be construed only to the extent necessary to resolve the controversy. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner presents one claim term for construction—“matched filtering/correlating module.” Pet. 6–13. We address it below.

1. “*matched filtering/correlating module*”

The term “matched filtering/correlating module” is first recited in Element 14.1 of claim 14 (“receiving an input signal at a first *matched filtering/correlating module*” (emphasis added)). Ex. 1001, 194:61–62. As Petitioner explains, the written description portion of the ’177 patent does not use the term “matched filtering/correlating module.” Pet. 10. Petitioner asserts Patent Owner advanced a particular construction of “matched filtering/correlating module” in the Western District of Texas Litigation between the parties.⁶ *Id.* at 7–10. Petitioner explains that the construction advanced by Patent Owner in the Western District of Texas Litigation is the same as the construction adopted by the U.S. District Court for the Middle District of Florida in related case *ParkerVision, Inc. v. Qualcomm Inc.*, No. 6-14-cv-00687 (M.D. Fla.). *Id.* at 8 (citing Ex. 1037 (Claim Construction Order), 24). Although the final decision in that case was appealed to the U.S. Court of Appeals for the Federal Circuit, the Federal Circuit’s decision does not address the construction of this term. *See generally ParkerVision, Inc. v. Qualcomm Inc.*, 116 F.4th 1345 (Fed. Cir. 2024).

⁶ The construction of “matched filtering/correlating module” proposed by Patent Owner in the Western District of Texas Litigation is: “linear time-variant circuitry that samples a modulated RF (radio frequency) carrier signal at an aliasing rate using a switch with an independent control input driven by a control signal with a non-negligible, periodic aperture, such that the samples, having non-negligible available energy, are accumulated and transferred to a load while the switch is closed and discharged through the load while the switch is open, thereby transferring available real power from the modulated RF carrier signal to the load and producing a down-converted signal with enhanced signal-to-noise ratio.” Ex. 1010, 11–12. Citations are to the native page numbers of Exhibit 1010.

In contrast to that construction, Petitioner asserts “matched filtering/correlating module” “does not require a construction beyond its plain-and-ordinary meaning in light of the specification.” Pet. 10 (citing Ex. 1003 ¶¶ 18–32). Petitioner, however, does not specifically set forth the plain and ordinary meaning. *See id.* at 10–13. Rather, in that section of the Petition, Petitioner asserts the Specification of the ’177 patent describes the “matched filtering/correlating process” and provides example embodiments thereof. *Id.* Petitioner concludes its discussion by criticizing two aspects of Patent Owner’s construction as being unsupported by the Specification. *See id.* at 13 (discussing Patent Owner’s omission of “correlating the input signal with the carrier frequency” and Patent Owner’s inclusion of language pertaining to discharging through a load). Dr. Galton, Petitioner’s expert, sets forth what he opines is “an appropriate claim construction” for the term, but his construction relies on the plain and ordinary meaning, without actually setting forth that meaning.⁷

Rather than putting its eggs in one basket, Petitioner asserts that “claim 14 is unpatentable under either the Patent Owner’s construction or the plain-and-ordinary meaning,” and provides an analysis of claim 14 and the prior art under each construction. Pet. 7; *see, e.g., id.* at 25–36 (discussing element [14.1] under Patent Owner’s construction), 36–40

⁷ Dr. Galton opines that “an appropriate claim construction” is “[a] device with one or more features which are similar to those of a Matched-filter/Correlator *in the plain-and-ordinary meaning of the term*, wherein one of the similar features is that the aperture window is periodically non-zero with a phase that is synchronous with the carrier of the received signal.” Ex. 1003 ¶ 32 (emphasis added).

(discussing element [14.1] under what Petitioner contends is the plain and ordinary meaning).

Patent Owner does not take a position on claim construction in the Preliminary Response. *See generally* Prelim. Resp.

At this stage of the proceeding and on the present record, we need not construe the term expressly because, for the reasons discussed below, we find that Petitioner has established a reasonable likelihood of showing that claim 14 would have been obvious to one of ordinary skill in the art under each construction, and because there is no present controversy as to the meaning of the term in this proceeding. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Ground 1: Obviousness over Tayloe and TI Datasheet

Petitioner asserts that the combination of Tayloe and TI Datasheet would have rendered the subject matter of claim 14 obvious to one of ordinary skill in the art at the time of the invention. Pet. 14; *see id.* at 20–24 (discussing motivation to combine Tayloe and TI Datasheet and reasonable expectation of success), 24–54 (discussing the application of the prior art to the claim).

1. Scope and Content of the Prior Art

a. Tayloe (Ex. 1004)

Tayloe is directed to “a direct conversion receiver” and its method of “convert[ing] signal of interest directly to baseband (or near zero hertz) from

a radio frequency (RF) or intermediate frequency (IF).” Ex. 1004, 1:10–13.

Figure 3 is reproduced below:

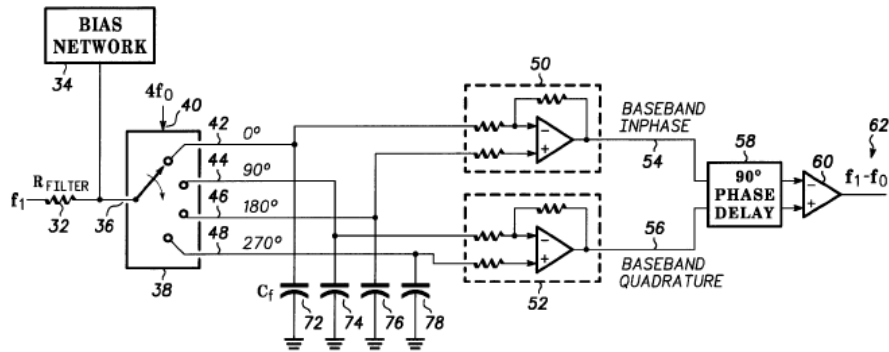


FIG. 3

Figure 3 is a block schematic circuit of a direct conversion receiver. *Id.* at 1:51–52.

Regarding Figure 3, Tayloe explains that

an RF or IF signal f_1 is received at resistor 32. Resistor 32, as is more fully discussed below, forms a filter when taken in combination with capacitors 72-78. After passing through resistor 32, the input signal is received by commutating switch 38 at input 36. Commutating switch 38 switches input 36 to outputs 42, 44, 46, and 48. The rate at which commutating switch 38 operates is controlled by a signal present at control input 40. In the preferred embodiment as shown in FIG. 3, the control signal input to control input 40 is substantially equal to four times the local oscillator frequency that would exist in a simple direct conversion receiver. As a result, input 36 is switched to each of the four outputs substantially once during each period of the input signal f_1 .

In a preferred embodiment, commutating switch 38 remains closed at each of the four outputs for substantially 90 degrees at the frequency of the input signal. In alternate embodiments, commutating switch 38 remains closed at each of the four outputs for less than 90 degrees.

During the time that commutating switch 38 connects input 36 to output 42, charge builds up on capacitor 72. Likewise, during the time commutating switch 38 connects input 36 to output 44, charge builds up on capacitor 74. The same principle holds true for capacitors 76 and 78 when commutating switch 38 connects input 36 to outputs 46 and 48 respectively. As commutating switch 38 cycles through the four outputs, capacitors 72-78 charge to voltage values substantially equal to the average value of the input signal during their respective quadrants. Each of the capacitors functions as a separate integrator, each integrating a separate quarter wave of the input signal. . . .

Output 42 represents the average value of the input signal during the first quarter wave of the period, and is termed the 0 degree output. Output 44 represents the average value of the input signal during the second quarter wave of the period, and is termed the 90 degree output. Output 46 represents the average value of the input signal during the third quarter wave of the period, and is termed the 180 degree output. Output 48 represents the average value of the input signal during the fourth quarter wave of the period, and is termed the 270 degree output.

The outputs of commutating switch 38 are input to summing amplifiers 50 and 52. Summing amplifier 50 differentially sums the 0 degree output and the 180 degree output, thereby producing baseband in-phase signal 54. Summing amplifier 52 differentially sums the 90 degree output and the 270 degree output, thereby producing baseband quadrature signal 56. Baseband in-phase signal 54 and baseband quadrature signal 56 are input to phase delay 58 which shifts the phase of baseband quadrature signal 56 by 90 degrees relative to baseband in-phase signal 54. The resulting signals are then summed by summing amplifier 60 to produce the signal of interest 62.

Ex. 1004, 2:13–67.

Tayloe teaches implementing “direct conversion receiver 30 (FIG. 3) utilizing an analog multiplexer and a digital counter as shown in FIG. 7,” reproduced below. Ex. 1004, 5:33–37.

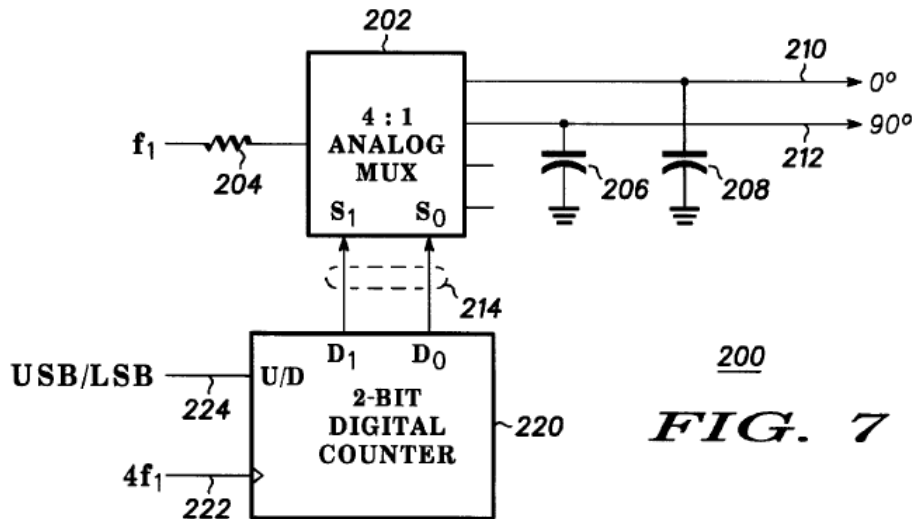


Figure 7 “shows a product detector” in accordance with one of Tayloe’s embodiments. *Id.* at 1:60–61. Tayloe discloses that “[t]he analog multiplexer is a Texas Instruments SN74BCT3253D.”⁸ *Id.* at 5:36–37.

b. TI Datasheet (Ex. 1005)

TI Datasheet describes the SN74CBT3253 multiplexer/demultiplexer, “a dual 1-of-4 high-speed TTL-compatible [field effect transistor (FET)] multiplexer/demultiplexer.” Ex. 1005, 1. A demultiplexer may be used to receive one input signal and route it to several output lines. Ex. 1003 ¶ 92.

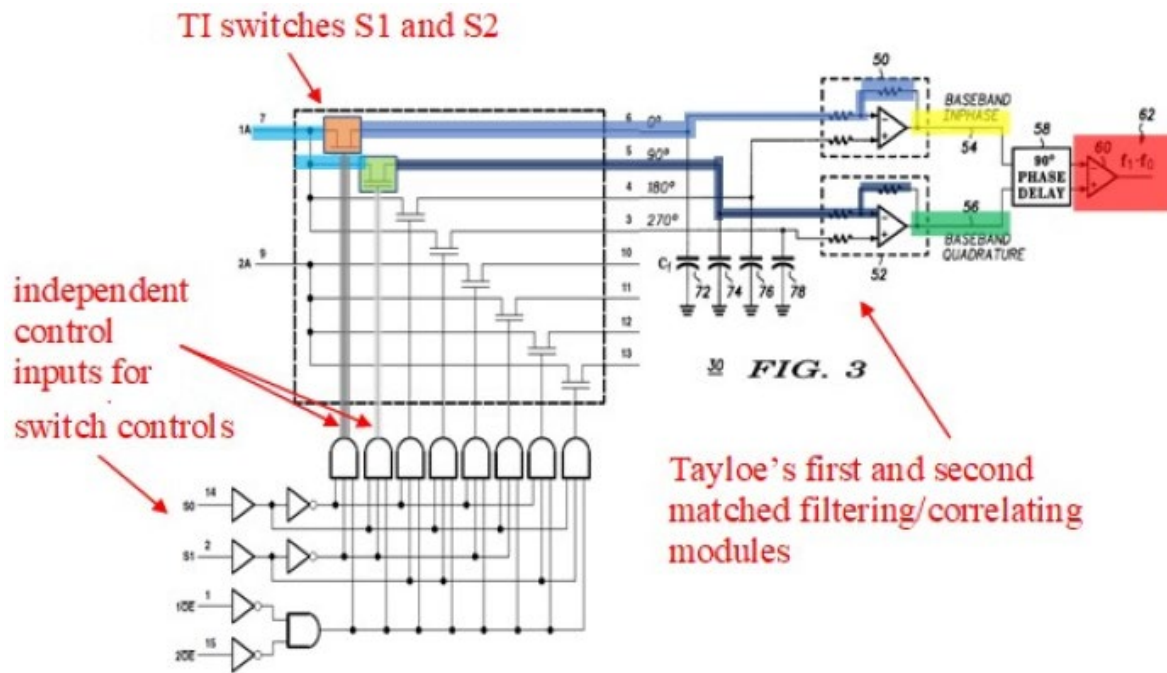
⁸ Petitioner explains that the “BCT” in Tayloe’s reference to the TI Datasheet is a typographical error and should instead be read as “CBT.” Pet. 18 n.2. Patent Owner does not contest Petitioner’s characterization at this stage of the proceeding. *See generally* Prelim. Resp.

2. *Claim 14*

a. *Motivation to Combine and Reasonable Expectation of Success*

Petitioner asserts Tayloe discloses “a direct conversion receiver using a commutating switch to ‘sample an RF waveform four times per period at the RF frequency’ in which ‘[t]he samples are integrated over time to produce an average voltage of 0 degrees, 90 degrees, 180 degrees and 270 degrees’ across the 360-degree full cycle.” Pet. 20–21 (alteration in original) (quoting Ex. 1004, code (57)) (citing Ex. 1004, 2:13–67, Figs. 3, 4). Petitioner further asserts Tayloe “expressly discloses that . . . switch 38 can be implemented using an analog multiplexer/demultiplexer, such as the TI SN74CBT3253D multiplexer/demultiplexer.” *Id.* at 21 (citing Ex. 1004, 5:33–37, 5:1–16, Fig. 7). Petitioner contends the TI Datasheet “describes the SN74CBT3253 ‘dual 1-of-4 high-speed [transistor-transistor logic]-compatible [field-effect transistor] multiplexer/demultiplexer.’” *Id.* (alterations in original) (citing Ex. 1005, 1). In the combination proposed by Petitioner, “Tayloe’s first and second matched filtering/correlating modules use a demultiplexer, like that shown in TI-Datasheet . . . as a switch with an independent control input controlled by a control switch.” *Id.* (citing Ex. 1005, 2; Ex. 1003 ¶¶ 100–109).

Petitioner asserts one of ordinary skill in the art “would have found it obvious to apply the teachings from TI Datasheet to implement . . . Tayloe’s multiplexer/demultiplexer” (Pet. 21 (citing Ex. 1003 ¶¶ 100–109)), and Petitioner provides the following figure showing the combination of features from Tayloe and TI Datasheet with annotations added by Petitioner.



Taylor FIG. 3 with TI Demux (TI-1005, 2) (annotated)

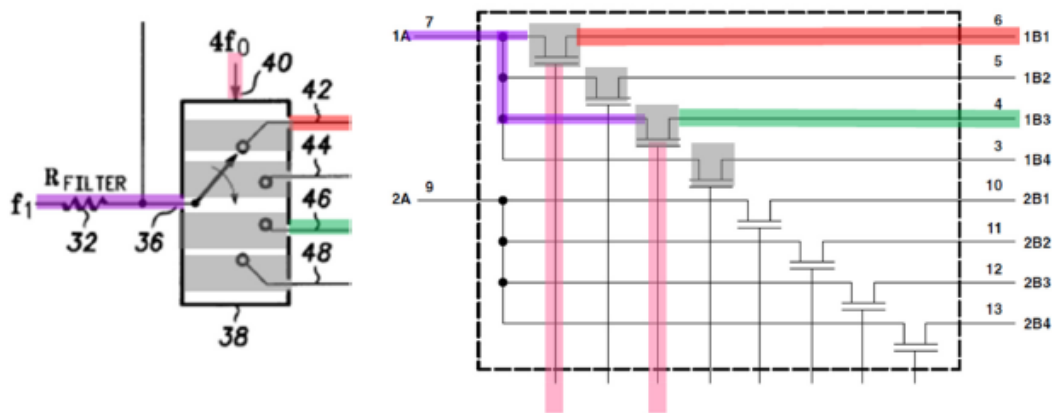
Pet. 22. Petitioner's figure combines the logic diagram of TI Datasheet's multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2) and Taylor's Figure 3 (right) (which "shows a direct conversion receiver" (Ex. 1004, 1:51–52)). Petitioner annotates the demultiplexer from TI Datasheet to identify "switch controls," "independent control inputs" for its switches, and switches S1 and S2. Pet. 22. And Petitioner annotates the portion from Taylor's Figure 3 to identify "Taylor's first and second matched filtering/correlating modules." *Id.* Petitioner uses different colors to show the sequence of the input signal (light blue) through TI Datasheet's demultiplexer (purple and dark blue) and the operation and effect of its switches (orange and light green) followed by the operations performed by Taylor's direct conversion receiver (yellow, green, red). *Id.*

Petitioner contends the following regarding motivation to combine and its combined figure shown above.

Tayloe expressly teaches four switches (gray) in a “direct conversion receiver 30 (FIG. 3) utilizing an analog multiplexer . . . shown in FIG. 7” and specifically states “[t]he analog multiplexer is a Texas Instruments SN74BCT3253D.” [Ex. 1004,] 5:33–37. Tayloe therefore discloses the express embodiment because the characteristics described in the TI Datasheet are inherent in Tayloe and a [person of ordinary skill in the art] would have knowledge of the characteristics of the referenced multiplexer for implementing switch 38. [Ex. 1003 ¶¶] 100–109.

At a minimum, a [person of ordinary skill in the art] would have found it obvious to use four of the multiplexer switches (gray) from TI Datasheet to implement Tayloe’s switch box 38 of FIG. 3 (which has four outputs), as annotated below.

Pet. 22.



TI-1004, Fig 3 (switch 38), TI-1005, 1 (multiplexer/demultiplexer)

Pet. 23. The figures shown above include a portion of Tayloe’s Figure 3 showing the operation of switch box 38 (left) and a portion of TI Datasheet’s demultiplexer (right). *Id.* Petitioner includes highlighting in each to show

the input signals (purple), the controls for the switches (pink), and the outputs from Tayloe’s switch box 38 and TI Datasheet’s demultiplexer (red, green). *Id.*

Petitioner asserts the following regarding motivation to combine and reasonable expectation of success:

A datasheet is a well-known resource for learning detailed information of the multiplexer/demultiplexer, and a [person of ordinary skill in the art] would have been motivated to consult the TI Datasheet for a more complete understanding of Tayloe’s express teachings of the SN74CBT3253 demultiplexer, the only matching multiplexer available at the time. [Ex. 1023; Ex. 1003] ¶¶ 100–109; *see also Bayer Healthcare Pharms., Inc. v. Watson Pharms., Inc.*, 713 F.3d 1369, 1374–75 (Fed. Cir. 2013) (obvious to combine two prior art references where one reference “refers expressly” to the other).

When viewing the detailed diagram of the SN74CBT3253 demultiplexer, a [person of ordinary skill in the art] would have been motivated to apply four of the switches because the architecture of one switch on the demultiplexer is analogous to one of the four switching paths of Tayloe’s commutating switch 38. [Ex. 1003 ¶¶ 100–109. Thus, a [person of ordinary skill in the art] would have thought to implement the multiplexer switches from TI Datasheet in an analogous manner “by simple substitution of one known element for another.”

Pet. 23–24 (citing Ex. 1003 ¶¶ 100–109; *KSR*, 550 U.S. at 401).

Petitioner further contends one of ordinary skill in the art “would have been motivated to use the TI demultiplexer for its advantages, including that ‘[t]he low on-state resistance of the switch allows connections to be made with minimal propagation delay.’” Pet. 24 (citing Ex. 1005, 1; Ex. 1003 ¶¶ 100–109). And Petitioner asserts one of ordinary skill in the art “would

have a reasonable expectation of success at combining Tayloe with TI Datasheet because the combination would have yielded only predictable results (e.g., ‘low on-state resistance of the switch [which] allows connections to be made with minimal propagation delay’).” *Id.* (alteration in original) (citing Ex. 1005, 1; Ex. 1003 ¶¶ 100–109).

Patent Owner does not address motivation to combine or reasonable expectation of success in its Preliminary Response. *See generally* Prelim. Resp.

We find, at this stage of the proceeding, on the present record, Petitioner has shown that one of ordinary skill in the art would have been motivated to combine the teachings of Tayloe and TI Datasheet as proposed with a reasonable expectation of success for the reasons provided by Petitioner.

b. [14.P]

[14.P] recites “[a] method for down-converting an electromagnetic signal, comprising.” Ex. 1001, 194:59–60. Petitioner contends, “to the extent that the preamble is limiting, Tayloe teaches it.” Pet. 24. Petitioner asserts “Tayloe describes a ‘method and apparatus’ involving ‘a simple and inexpensive product detector which facilitates the conversion of a signal to baseband.’” *Id.* (citing Ex. 1004, 1:64–67). Petitioner further asserts “converting an RF or IF signal to baseband is ‘down-converting’ of ‘an electromagnetic signal.’” *Id.* (citing Ex. 1001, code (57); Ex. 1003 ¶¶ 110, 112; Ex. 1004, 1:10–13, 5:61–64; Ex. 1008, 65–67).

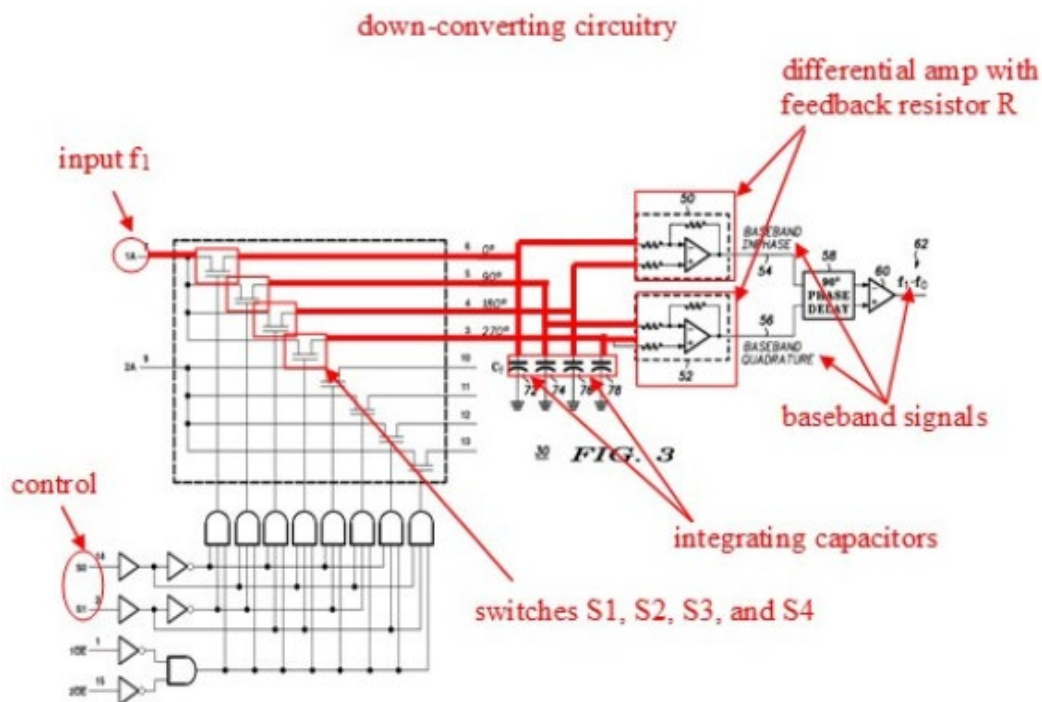
In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding the preamble of claim 14. *See generally* Prelim. Resp.

We find, at this stage of the proceeding and on the present record, Petitioner has shown the combination of Tayloe and TI Datasheet satisfies the preamble of claim 14 for the reasons provided by Petitioner.

c. Element [14.1]

Element [14.1] recites “receiving an input signal at a first matched filtering/correlating module.” Ex. 1001, 194:61–62. Petitioner contends “Tayloe teaches that an RF or IF input signal f_1 is received into a circuit that performs down-converting.” Pet. 25 (citing Ex. 1004, 2:13–14).

Reproduced below is Petitioner’s combination of Tayloe’s Figure 3 and TI Datasheet’s multiplexer/demultiplexer, including various annotations by Petitioner showing the down-converting circuitry.



Tayloe, FIG. 3 + TI Datasheet (annotated)

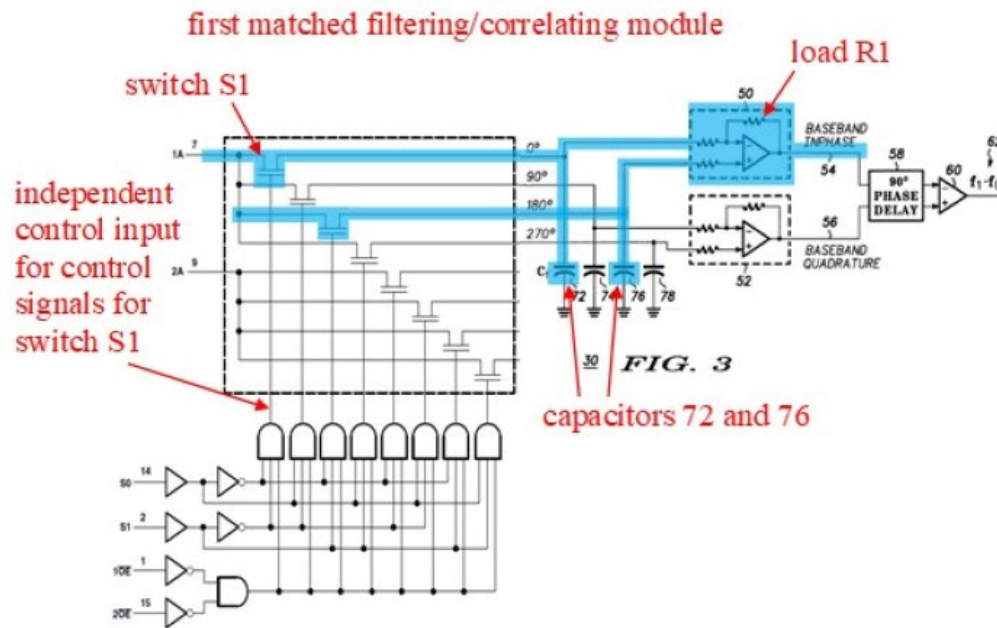
Id. Petitioner’s figure combines the logic diagram of TI Datasheet’s multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2)

and Tayloe's Figure 3 (right) (which "shows a direct conversion receiver" (Ex. 1004, 1:51–52)). Petitioner annotates its combined figure to identify control signals, an input signal (f_i); switches S1, S2, S3, and S4; integrating capacitors 72, 74, 76, 78; differential summing amplifier circuitry 50, 52 (including feedback resistor R); and baseband signals 54, 56, and 62. Pet. 25 (citing Ex. 1004, 2:8–12, Fig. 6; Ex. 1003 ¶¶ 111–112).

Petitioner asserts "Tayloe's circuitry includes several down-converting circuits" and, regardless of which construction of "matched filtering/correlating module" is used, Tayloe, as modified by TI Datasheet, teaches element [14.1]. Pet. 25–26.

i. Patent Owner's Construction

Petitioner contends "Tayloe describes a first matched filtering/correlating module that performs down-conversion of an RF or IF signal into a baseband signal." Pet. 26 (citing Ex. 1003 ¶¶ 113–131). Petitioner's combination of Tayloe's Figure 3 and TI Datasheet's multiplexer/demultiplexer, including annotations (in blue) identifying the first matched filtering/correlating module, is reproduced below. *Id.*



Tayloe, FIG. 3 (annotated)

*Id.*⁹ Petitioner’s figure combines the logic diagram of TI Datasheet’s multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2) and Tayloe’s Figure 3 (right) (which “shows a direct conversion receiver” (Ex. 1004, 1:51–52)). Petitioner’s annotations identify “switch S1,” “independent control input for control signals for switch S1,” “capacitors 72 and 76,” and “load R1.” Pet. 26. Petitioner contends “[t]he first matched filtering/correlating module includes a structure that, when operated, performs the method of Element [14.1], according to Patent Owner’s construction[.]” *Id.* at 26–27 (citing Ex. 1003 ¶¶ 113–131). Petitioner discusses how the different aspects of Patent Owner’s construction are met by the combination of Tayloe and TI Datasheet, as summarized below.

⁹ Unlike the previous caption for Petitioner’s combined figure (*see* Pet. 25 (“Taylor, FIG. 3 + TI Datasheet (annotated)”)), Petitioner’s caption for this instance of the combined figure (“Taylor, FIG. 3 (annotated)”) fails to indicate that it includes TI Datasheet’s demultiplexer (*see id.* at 26).

(a) linear, time-variant circuitry

Petitioner contends “Taylor teaches linear, time-variant circuitry.” Pet. 27 (citing Ex. 1003 ¶¶ 114–115). First, Petitioner asserts one of ordinary skill in the art “would have recognized the overall circuit as being linear in principle” because the “down-conversion circuitry includes resistors, capacitors, op-amp based closed-loop amplifiers, a phase shifting network, a differencing amplifier, and a commutating switch.” *Id.* (citing Ex. 1004, 1:67–2:2, 2:42–44, 4:9–13, 4:57–58; Ex. 1003 ¶¶ 113–115).

Second, Petitioner contends “Taylor’s down-conversion circuitry is time-variant because the switches reconfigure the circuit each time the commutating switch changes state.” Pet. 27 (citing Ex. 1003 ¶¶ 113–115); *see id.* (asserting Taylor is a time-varying system because the capacitor(s) connected to the RF input signal change over time and “switch 38 is controlled by a time-varying control signal $4f_0$ ”). *Id.* (citing Ex. 1004, 2:21–27, 3:62–65; Ex. 1003 ¶¶ 113–115).

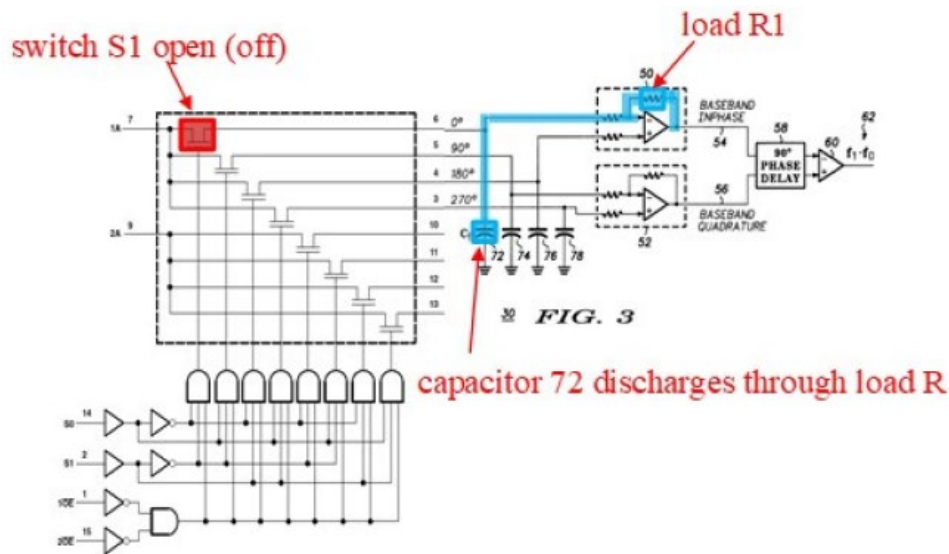
(b) that samples a modulated RF carrier signal at an aliasing rate using a switch with an independent control input driven by a control signal with a non-negligible, periodic aperture such that the samples, having non-negligible available energy, are accumulated and transferred to a load while the switch is closed

Petitioner asserts “the input to Taylor’s circuit is a modulated RF carrier signal f_1 .” Pet. 28 (citing Ex. 1004, 2:13–14, 3:40–4:1, 1:14–16; Ex. 1003 ¶¶ 116–123). Petitioner also asserts “[t]he Taylor circuitry samples the input signal f_1 at an aliasing rate using a switch S1 with an independent control input driven by a control signal.” *Id.* (citing Ex. 1004, code (57), 3:48–54, 2:18–19). Petitioner further contends “[t]he control signal samples using a non-negligible, periodic aperture by closing the

switch S1 for substantially 90 degrees at the frequency of the input signal f_1 .” *Id.* at 30 (citing Ex. 1003 ¶¶ 116–123). Petitioner asserts, “while the switch S1 is closed, a non-negligible available energy—indeed, the entirety of the sample—is accumulated on the capacitor 72 and transferred to the load R1.” *Id.* at 31 (citing Ex. 1003 ¶¶ 116–123).

(c) and discharged through the load while the switch is open

Petitioner asserts one of ordinary skill in the art “reading Tayloe would have recognized that Tayloe’s capacitor 72 inherently discharges through the feedback resistor when the switch is open.” Pet. 32 (citing Ex. 1003 ¶¶ 124–125). Specifically, Petitioner contends “Tayloe teaches that, when the switch 38 is open, charged capacitor 72 will discharge through the load (*i.e.*, through the resistor shown in the figure below).” *Id.* (citing Ex. 1004, 2:56–57, Fig. 3; Ex. 1003 ¶¶ 124–125). Reproduced below is Petitioner’s figure showing the combined teachings of Tayloe and TI Datasheet, along with annotations and highlighting by Petitioner to show the discharge path of capacitor 72. *Id.*



Tayloe, FIG. 3 (annotated).

Pet. 32.¹⁰ Petitioner's figure combines the logic diagram of TI Datasheet's multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2) and Tayloe's Figure 3 (right) (which "shows a direct conversion receiver" (Ex. 1004, 1:51–52)). Petitioner's annotations identify "switch S1 open (off)," "load R1," and "capacitor 72 discharges through load R," and Petitioner highlights the discharge path of capacitor 72 (blue). Pet. 32.

(d) thereby transferring available real power from the modulated RF carrier signal to the load and

Petitioner contends that, in Tayloe, "the charge accumulated on each capacitor discharges through the load and transfers available real power from the modulated input signal f_1 to the load." Pet. 33 (citing Ex. 1003 ¶¶ 126–127). Specifically, "[d]uring the time that commutating switch 38

¹⁰ As noted with one of the previous instances of Petitioner's combined figure, Petitioner's caption fails to indicate that the figure also includes TI Datasheet's demultiplexer. Compare Pet. 32 (only identifying Tayloe's Figure 3) with *id.* at 25 (identifying Tayloe's Figure 3 and TI Datasheet).

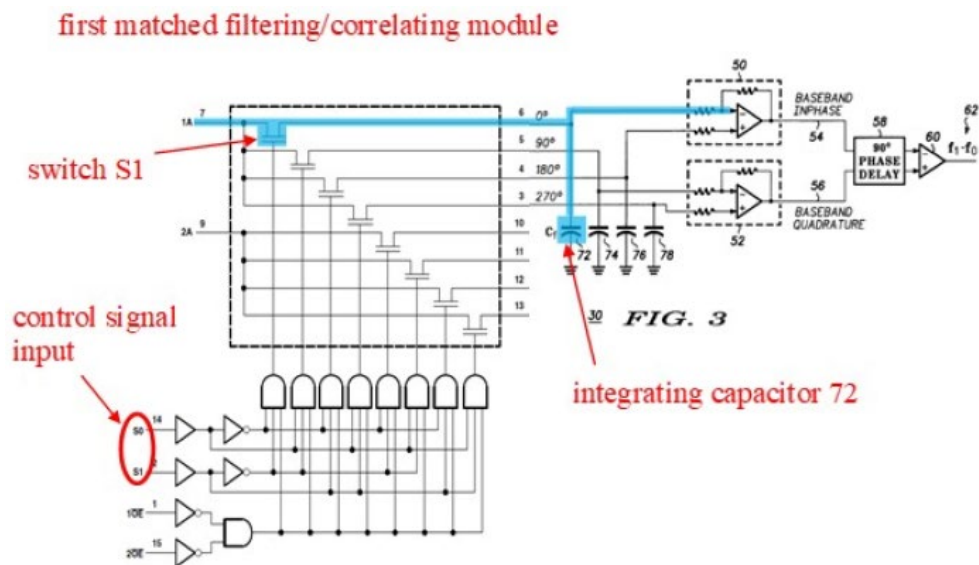
connects input 36 to output 42, charge builds up on capacitor 72” and “[c]apacitors 72 and 74 discharge through the top-left resistors in 50 and 52, respectively.” *Id.* at 33–34 (first alteration in original) (quoting Ex. 1004, 2:33–44)(citing Ex. 1004, 2:46–55; Ex. 1003 ¶¶ 124–127). Thus, Petitioner asserts “the capacitor discharges electrical charge through the load (feedback resistor), which a [person of ordinary skill in the art] would know is available real power from the RF carrier signal,” and “[t]he charge (or energy) that accumulates on the capacitor 72 and is transferred through the load R1 translates to available real power.” *Id.* at 34 (citing Ex. 1003 ¶¶ 124–127).

(e) producing a down-converted signal with enhanced signal-to-noise power ratio

Petitioner asserts Tayloe teaches producing a down-converted signal, for example, the “in-phase and quadrature signals that result represent the signal of interest at baseband.” Pet. 34 (quoting Ex. 1004, 2:2–4) (citing Ex. 1004, 2:38–44; Ex. 1003 ¶ 128). Petitioner also asserts a person of ordinary skill in the art “would have recognized that the averaging performed by the integrators reduces noise on the signal because it attenuates high-frequency noise and interference while preserving the desired signal component.” *Id.* at 35 (citing Ex. 1003 ¶¶ 129–131). Additionally, Petitioner contends “one of the stated benefits of Tayloe is an improvement to noise” (i.e., a signal to noise power ratio improvement). *Id.* at 35–36 (citing Ex. 1003 ¶¶ 128–131; Ex. 1004, 3:6–13 (explaining that its circuit can exhibit less conversion loss, resulting in an improvement over the typical conversion loss)).

ii. Plain and Ordinary Meaning

Petitioner contends Tayloe teaches element [14.1] under the plain and ordinary meaning of “matching filtering/correlating module.” Pet. 36–40. After discussing the operations of the ’177 patent and one embodiment of the matched filtering/correlating module that “includes a switch controlled by a control signal, and a capacitor that acts as an integrator,” Petitioner turns to Tayloe. *Id.* at 36 (citing Ex. 1001, 134:32–51, Fig. 153; Ex. 1003 ¶¶ 18–32, 62–67, 132–137; Pet. § II.C (discussing the plain and ordinary meaning)). In particular, Petitioner contends “the circuitry of Tayloe includes a switch S1 controlled by a control signal derived from f_0 and a capacitor 72 that performs integration.” *Id.* at 39 (citing Ex. 1003 ¶¶ 132–137). Petitioner asserts Tayloe describes “a first matched filtering/correlating circuit” as shown in Petitioner’s combined figure, highlighted in blue, and reproduced below.



Tayloe FIG. 3 + TI Datasheet (annotated)

Pet. 40. Petitioner’s figure combines the logic diagram of TI Datasheet’s multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2)

and Tayloe’s Figure 3 (right) (which “shows a direct conversion receiver” (Ex. 1004, 1:51–52)). Petitioner labels the combined figure “first matched filtering/correlating module”; annotates the figure to identify a “control signal input,” “switch S1,” and “integrating capacitor 72”; and includes blue highlighting in the figure identifying what Petitioner contends is the first matched filtering/correlating circuit. Pet. 40. Petitioner asserts, “in at least one embodiment of Tayloe, the control signal that controls the switch S1 is synchronized to the carrier of the received RF input signal because each switch is closed exactly once [sic] period of the received RF input signal’s carrier frequency.” *Id.* (citing Ex. 1004, 3:48–54; Ex. 1003 ¶¶ 18–32, 62–67, 132–137). Thus, Petitioner asserts “Tayloe provides a matched filtering/correlator module” consistent with the plain and ordinary meaning of the term. *Id.* (citing Ex. 1003 ¶¶ 18–32, 62–67, 132–137).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding element [14.1]. *See generally* Prelim. Resp.

We find each of Petitioner’s alternative arguments persuasive as to element [14.1] and supported on the record before us for the reasons explained by Petitioner.

d. Element [14.2]

Element [14.2] recites “down converting said input signal at said first matched filtering/correlating module according to a first control signal and outputting a first down-converted signal.” Ex. 1001, 194:63–65. Petitioner contends “Tayloe teaches or renders obvious element [14.2]” and relies on its discussion of element [14.1] and circuit operation and down-conversion to baseband. Pet. 40 (citing Pet. 26–36 (addressing Patent Owner’s

construction and the plain and ordinary meaning of “matched filtering/correlating module”); Ex. 1003 ¶¶ 138–140). Petitioner adds that, under a plain and ordinary meaning construction, “Tayloe’s first matched filtering/correlating module outputs a first in-phase down-converted signal.” Pet. 41 (citing Ex. 1004, 2:46–48; Ex. 1003 ¶¶ 138–140).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding element [14.2]. *See generally* Prelim. Resp.

We find each of Petitioner’s alternative arguments persuasive as to element [14.2] and supported on the record before us for the reasons explained by Petitioner.

e. Element [14.3]

Element [14.3] recites “receiving said input signal at a second matched filtering/correlating module.” Ex. 1001, 194:66–67. Petitioner relies on its arguments and evidence from element [14.1], asserting Tayloe teaches a second matched filtering/correlating module which receives an input signal. Pet. 42. In particular, Petitioner’s discussion of Tayloe’s first matched filtering/correlating module applies to the second matched filtering/correlating module. *See id.* at 42–47 (discussing the application of Patent Owner’s construction), 48–49 (discussing the application of the plain and ordinary meaning).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding element [14.3]. *See generally* Prelim. Resp.

We find each of Petitioner’s alternative arguments persuasive as to element [14.3] and supported on the record before us for the reasons explained by Petitioner.

f. Element [14.4]

Element [14.4] recites “down converting said input signal at said second matched filtering/correlating module according to a second control signal and outputting a second down-converted signal.” Ex. 1001, 195:1–4. Petitioner relies on its arguments and evidence from elements [14.2] and [14.3], asserting Tayloe “teaches or renders obvious element [14.4].” Pet. 50–51 (discussing the application of Patent Owner’s construction and Petitioner’s plain and ordinary meaning).

In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding element [14.4]. *See generally* Prelim. Resp.

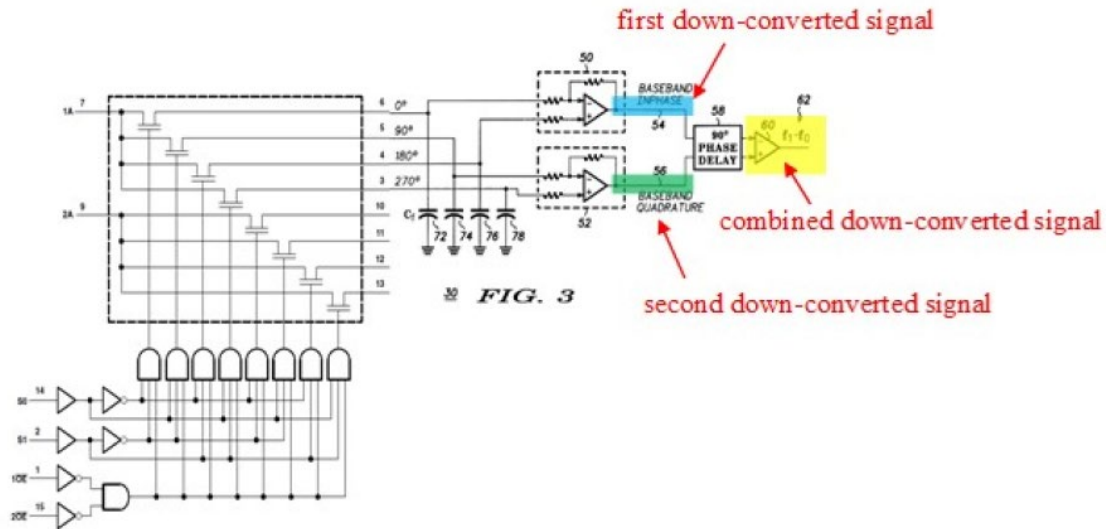
We find each of Petitioner’s alternative arguments persuasive as to element [14.4] and supported on the record before us for the reasons explained by Petitioner.

g. Element [14.5]

Element [14.5] recites “combining said second down-converted signal and said first down-converted signal and outputting a first channel down-converted signal.” Ex. 1001, 195:5–8. Petitioner contends Tayloe teaches element [14.5] under either construction. Pet. 51–54.

i. Patent Owner's Construction

Petitioner contends “Taylor describes that the baseband in-phase signal 54 and the baseband quadrature signal 56 are combined by the summing amplifier 60,” as shown in Petitioner’s combination figure reproduced below. Pet. 51 (citing Ex. 1002, 2:65–67; Ex. 1003 ¶ 155).



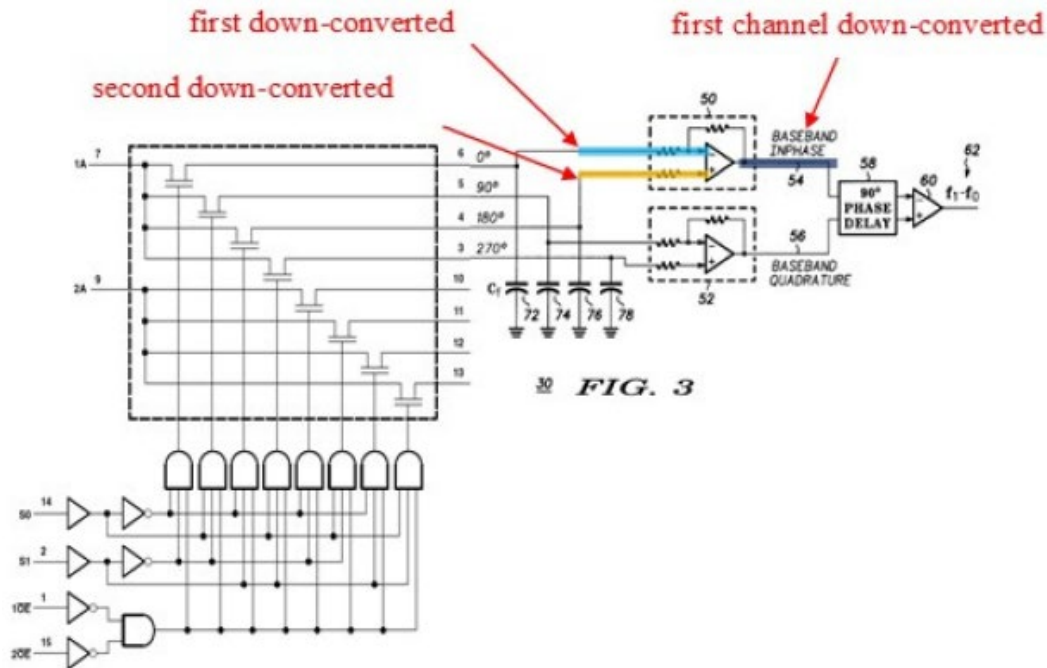
Taylor, FIG. 3 + TI Datasheet (annotated)

Id. at 52. Petitioner’s figure combines the logic diagram of TI Datasheet’s multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2) and Taylor’s Figure 3 (right) (which “shows a direct conversion receiver” (Ex. 1004, 1:51–52)). Petitioner’s annotations identify a “first down-converted signal” (blue), a “second down-converted signal” (green), and a “combined down-converted signal” (yellow). Pet. 52.

ii. Plain and Ordinary Meaning

Petitioner also contends “Taylor teaches element [14.5]” under the plain and ordinary meaning, “where the first channel down-converted signal

is the I-phase down-converted signal” as shown in Petitioner’s combined figure reproduced below. Pet. 52 (citing Ex. 1003 ¶¶ 139–140, 156).



Taylor FIG. 3 + TI Datasheet (annotated)

Id. at 53. Petitioner’s figure combines the logic diagram of TI Datasheet’s multiplexer/demultiplexer employed as a demultiplexer (left) (Ex. 1005, 2) and Taylor’s Figure 3 (right) (which “shows a direct conversion receiver” (Ex. 1004, 1:51–52)). Petitioner’s annotations identify a “first down-converted” signal (blue), a “second down-converted” signal (yellow), and a “first channel down-converted” signal (dark blue). Pet. 53.

In the Preliminary Response, Patent Owner does not challenge Petitioner’s contentions regarding element [14.5]. *See generally* Prelim. Resp.

We find each of Petitioner’s alternative arguments persuasive as to element [14.5] and supported on the record before us for the reasons explained by Petitioner.

h. Summary as to Claim 14

For the reasons discussed above, on the present record we find that Petitioner has established that the combination of Tayloe and TI Datasheet teaches each of the elements of claim 14 and that one of ordinary skill in the art would have been motivated to combine the teachings of these two references as proposed by Petitioner with a reasonable expectation of success in so doing.

3. Objective Indicia of Nonobviousness

In the record presently before us, neither Petitioner nor Patent Owner has presented any evidence of objective indicia of nonobviousness.

4. Weighing the Graham Factors

“Once all relevant facts are found, the ultimate legal determination [of obviousness] involves the weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan.” *Arctic Cat*, 876 F.3d at 1361. On balance, considering the record presently before us, Petitioner has established a reasonable likelihood that it would prevail in showing that the combination of Tayloe and TI Datasheet would have rendered the subject matter of claim 14 of the ’177 patent obvious to one of ordinary skill in the art at the time of the invention.

E. Ground 2A: Obviousness over Razavi

Ground 2B: Obviousness over Razavi and Uzunoglu

Petitioner asserts Grounds 2A and 2B as alternatives to one another depending on the construction of “matched filtering/correlating module.”

Specifically, if Patent Owner’s construction is adopted, Petitioner contends Razavi would have rendered the subject matter of claim 14 obvious to one of ordinary skill in the art at the time of the invention. Pet. 54–72; *see id.* at 58 (discussing Patent Owner’s construction). In the alternative, Petitioner contends that, if the plain and ordinary meaning of the term is adopted, the combination of Razavi and Uzunoglu would have rendered the subject matter of claim 14 obvious to one of ordinary skill in the art at the time of the invention. *Id.* at 72–81; *see id.* at 78 (discussing the plain and ordinary meaning).

Patent Owner’s Preliminary Response does not raise any substantive argument directed to Petitioner’s Grounds 2A and 2B. *See generally* Prelim. Resp.

Because we have determined above that, at this stage of the proceeding and on the present record, the information presented in the Petition shows that there is a reasonable likelihood that Petitioner will prevail with respect to its challenge based on the combination of Tayloe and TI Datasheet (Ground 1), we need not address, in this Decision, Petitioner’s additional challenges (Grounds 2A and 2B). *See* 35 U.S.C. § 314(a); *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“Section 314(a) does not require the Director to evaluate every claim individually. Instead, it simply requires him to decide whether the petitioner is likely to succeed on ‘at least 1’ claim. Once that single claim threshold is satisfied, it doesn’t matter whether the petitioner is likely to prevail on any additional claims; the Director need not even consider any other claim before instituting review.”); 37 C.F.R. § 42.108(a).

IV. CONCLUSION

For the reasons discussed above, we do not exercise our discretion to deny institution. Additionally, Petitioner has demonstrated a reasonable likelihood that it would prevail in showing that at least one claim of the '177 patent is unpatentable. Our analysis is based on the preliminary record developed thus far and may change after the record is developed fully, during trial.

V. ORDER

Accordingly, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is instituted as to claim 14 of the '177 patent on each of the three grounds set forth in the Petition—(1) Tayloe and TI Datasheet; (2) Razavi; and (3) Razavi and Uzunoglu; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the '177 patent shall commence on the entry date of this Decision, and notice is hereby given of the institution of a trial.

IPR2024-00935
Patent 7,865,177 B2

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