

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RESMED CORP.,
Petitioner,

v.

CLEVELAND MEDICAL DEVICES, INC.,
Patent Owner.

IPR2025-00247
Patent 11,872,029 B1

Before SHERIDAN K. SNEDDEN, NEIL T. POWELL, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

HARDMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

Petitioner ResMed Corp. requests *inter partes* review of claims 1–19 of U.S. Patent No. 11,872,029 B1 (“the ’029 patent,” Ex. 1001). Paper 1 (“Pet.”). Patent Owner Cleveland Medical Devices, Inc. filed a Preliminary Response. Paper 8 (“Prelim. Resp.”).¹

We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” After considering the briefing and cited evidence of record, we institute an *inter partes* review.

The following preliminary findings of fact and conclusions of law are made solely for determining whether to institute review. Any final decision will be based on the full trial record.

A. Real Parties in Interest

Petitioner and Patent Owner each identify only themselves as the real party in interest. Pet. 72; Paper 3 (Patent Owner Mandatory Notices), 1.

B. Related Matters

The parties identify *ResMed Corp. v. Cleveland Medical Devices, Inc.*, 1:23-cv-02221-BMB (N.D. Ohio) (the “Ohio case”) as a related matter involving the ’029 patent. Pet. 73; Paper 3, 1.

Petitioner identifies *inter partes* reviews for U.S. Patent No. 11,602,284 (IPR2025-00157), U.S. Patent No. 11,375,921 (IPR2025-00159), U.S. Patent No. 11,690,512 (IPR2025-00158), U.S. Patent No.

¹ The parties also filed briefs directed to discretionary denial issues. See Papers 6, 9. The Director ruled on discretionary denial issues. See Paper 10. We do not address discretionary denial issues here.

11,786,680 (IPR2025-00160), U.S. Patent No. 11,857,333 (IPR2025-00246), and U.S. Patent No. 10,076,269 (IPR2023-00565). Pet. 73.

C. The '029 patent (Ex. 1001)

The '029 patent, titled “Devices and Methods for Sleep Disorder Diagnosis and Treatment,” issued on January 16, 2024, from U.S. Application 18/105,277, filed on February 3, 2023, and claims priority as a continuation to several utility applications, the earliest of which was filed on November 4, 2005. Ex. 1001, codes (21), (22), (45), (54), (63). The '029 patent “relates to an integrated sleep diagnosis and treatment device, and more particularly to an integrated apnea diagnosis and treatment device” and “to [a] method of sleep diagnosis and treatment.” *Id.* at 1:31–35.

One embodiment of a diagnostic device of a sleep disorder treatment system is depicted in Figure 1 of the '029 patent, reproduced below.

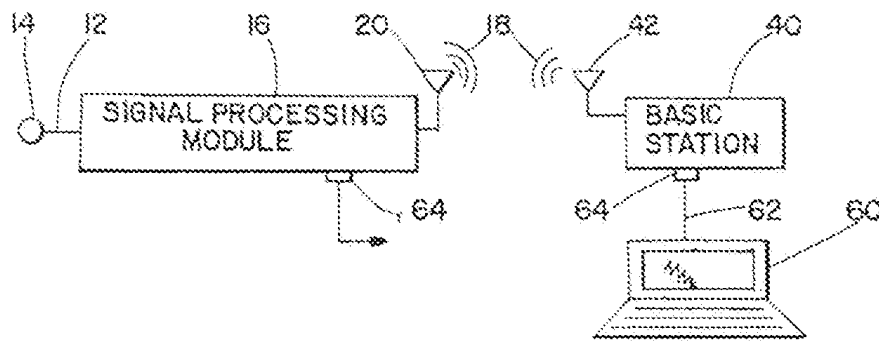


Fig. 1

Figure 1 of the '029 patent is a block diagram of a system in which external input 12 from sensor 14 is input to signal processing module 16. *Id.* at 9:6–9. The '029 patent describes signal processing module 16 as generating signal 18 that is “encoded with data corresponding to the external input 12” and transmitted “by wireless means to a base station 40.” *Id.* at 9:12–15.

Figure 7 of the '029 patent is reproduced below.

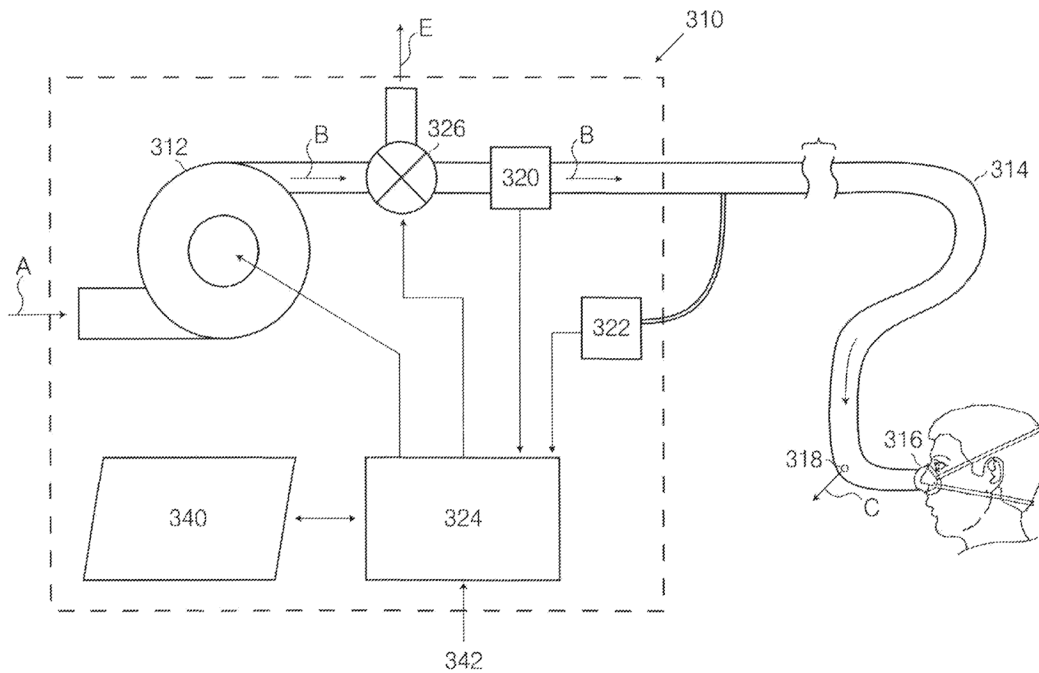


Fig. 7

Figure 7 depicts a continuous positive airway pressure (CPAP) device which “can be used to physically treat a subject’s sleep disorder, [and] which can be further adjusted using the output of the level of severity of the subject’s sleeping disorder.” *Id.* at 22:54–60. The '029 patent explains that

[t]his conventional pressure support system 310 shown in FIG. 7 includes a pressure generator 312, a blower, piston or bellows[] that receives a supply of gas from a gas source, such as ambient atmosphere, as indicated by arrow A, or pressurized gas tanks (not shown) and creates a flow of breathing gas, as indicated by arrows B, having a pressure greater than the ambient atmospheric pressure.

Id. at 22:60–67. Patient or subject circuit 314 “delivers the elevated pressure breathing gas to the airway of the subject” such as via patient interface device 316. *Id.* at 22:67–23:5.

Pressure support system 310 may further include flow sensor 320, pressure sensor 322, or both to “monitor the flow and/or pressure of gas passing in the subject circuit 314.” *Id.* at 23:20–23. According to the ’029 patent, “[t]he flow information can also be used to determine the volume of gas passing through the subject circuit 314” and “[t]he information from the flow sensor 320 and/or pressure sensor 322 is used, for example, to control the pressure or flow of gas provided to the subject, monitor the condition of the subject, monitor the usage of the pressure support device, any combination thereof, or the like.” *Id.* at 23:23–30.

The ’029 patent states that “one or more sensors used in the system of the present invention can also be tethered to a computer, base station, cell phone, a PDA or some other form of processor or microprocessor.” *Id.* at 19:19–22. In addition, the ’029 patent describes embodiments in which the “invention can be part of a remote communication station or base station.” *Id.* at 19:23–25. For instance, a remote communication system may be “a PDA, computer or cell phone, which receives the physiological data transmission, optionally re-processes the information, and re-transmits the information via cell towers, land phone lines, satellite, radio frequencies or cable to a remote site for analysis.” *Id.* at 19:51–60.

D. The Challenged Claims

Petitioner challenges claims 1–19 of the '029 patent. Claim 1, the only independent challenged claim, is reproduced below with bracketed notations added:²

1. A positive airway pressure (PAP) sleep disorder treatment system comprising:

[1.a] a non-transitory computer readable medium comprising a first software, the first software adapted to be downloaded to a cell phone and executable by a first processor on the cell phone to display to a subject for viewing on the cell phone an index of treatment efficacy of the subject using a PAP device, the index based in whole or in part on a data of severity of sleep disorder symptoms of the subject and/or a data of usage of the PAP device by the subject, the cell phone comprising at least one first radio frequency wireless transceiver, the first processor, the first software when downloaded, and a display;

[1.b] the PAP device with an enclosure further comprising:

[1.b.i] a blower having an air output within the enclosure,

[1.b.ii] an airflow sensor being any type of sensor internal to the enclosure of the PAP device adapted for measuring or deriving the respiratory airflow of a subject while using the PAP device and outputting airflow sensor data,

[1.b.iii] a second processor within the enclosure adapted for receiving the airflow sensor data and for calculating:

[1.b.iii.1] i) the data of a severity of the sleep disorder symptoms of the subject,

[1.b.iii.2] ii) the data of usage of the PAP device by the subject, and/or

² For ease of reference, we use the same bracketed notations Petitioner uses in the Petition. *See, e.g.*, Pet. 12–40. We note that Petitioner's recitation of claim 1 in the Claim Listing Appendix (Pet. 76) is missing a portion of claim 1.

[1.b.iii.3] iii) the index based in whole or in part on either i) or ii) or both i) and ii),

[1.b.iv] a mask or a nasal cannula connected to the enclosure, and

[1.b.v] at least one second radio frequency wireless transceiver within the enclosure, the at least one second radio frequency wireless transceiver adapted for transmitting i) and ii), and/or iii); and

[1.c] a remote internet site, the remote internet site adapted for receiving i) and ii), or i), ii), and iii), related to the subject's treatment and the treatment's efficacy in whole or part, generated by the PAP device and transmitted via the at least one second radio frequency wireless transceiver.

Ex. 1001, 23:63–24:35.

E. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–19 are unpatentable on the following six grounds:

Ground	Claim(s) Challenged	35 U.S.C. § ³	Reference(s)/Basis
1	1–11, 13–16, 18, 19	103(a)	Truitt, ⁴ Kumar ⁵

³ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Here, Petitioner applies “an effective filing date of no earlier than November 4, 2005.” Pet. 3. Accordingly, we apply the pre-AIA version of § 103; however, our decision would be no different under the AIA version of the statute.

⁴ Truitt et al., U.S. Patent 6,644,311 B1, issued November 11, 2003 (“Truitt,” Ex. 1007).

⁵ Kumar et al., U.S. Patent App. Pub. 2002/0198473 A1, published December 26, 2002 (“Kumar,” Ex. 1008).

Ground	Claim(s) Challenged	35 U.S.C. § ³	Reference(s)/Basis
2	14, 15	103(a)	Truitt, Kumar, Dong ⁶
3	12, 17	103(a)	Truitt, Kumar, Wright ⁷
4	1–11, 13–16, 18, 19	103(a)	Truitt, Kumar, Mumford ⁸
5	10, 14–16	103(a)	Truitt, Kumar, Dong, Mumford
6	12, 17	103(a)	Truitt, Kumar, Wright, Mumford

Pet. 2–3. Grounds 4–6 present the same combinations of prior art presented for Grounds 1–3, but add Mumford for its disclosure of a sleep efficacy algorithm. Pet. 64. Petitioner states that it offers these grounds as an alternative to Grounds 1–3, in the event it is determined that Truitt does not disclose certain claim limitations. *Id.* at 66–67.

Petitioner supports its contentions with the Declarations of Jason Kirkness, Ph.D. (Ex. 1003) and Dr. Sandeep Chatterjee (Ex. 1005), among other evidence.

II. UNPATENTABILITY ARGUMENTS

A. Principles of Law

In an *inter partes* review, “the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016)

⁶ Dong et al., U.S. Patent 5,424,942, issued June 13, 1995 (“Dong,” Ex. 1014).

⁷ Wright et al., U.S. Patent App. Pub. 2002/0185130 A1, published December 12, 2002 (“Wright,” Ex. 1013).

⁸ Mumford et al., U.S. Patent 7,575,005 B2, issued August 18, 2009 (“Mumford,” Ex. 1009).

(citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Petitioner ultimately bears the burden of persuasion to prove unpatentability of each challenged claim by a preponderance of the evidence. 35 U.S.C. § 316(e). This burden never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). The Board may authorize an *inter partes* review if we determine that the information presented in the briefing of record shows a reasonable likelihood that Petitioner will prevail with respect to at least one of the claims challenged in the petition. 35 U.S.C. § 314(a).

Under pre-AIA 35 U.S.C. § 103(a), a claim is unpatentable as obvious if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. 35 U.S.C. § 103(a); *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) any objective indicia of nonobviousness.⁹ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). An obviousness determination requires finding a reason to combine accompanied by a reasonable expectation of achieving

⁹ At this stage, Patent Owner does not assert any objective indicia of nonobviousness. *See generally* Prelim. Resp.

what is claimed in the challenged patent. *See Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *KSR*, 550 U.S. at 419–20.

B. Level of Ordinary Skill in the Art

We consider the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time the invention was made.¹⁰ *See Graham*, 383 U.S. at 17–18. Petitioner proposes that a person of ordinary skill in the art (sometimes referred to herein as “POSITA”) would have had:

at least a bachelor’s degree in mechanical engineering, electrical engineering, computer science, biomedical engineering, or a similar technical field, with at least two years of relevant product design experience working with diagnostic sensor systems and network data systems, such as networked PAP machines. Additional experience could substitute for less education, and additional education could likewise substitute for less experience.

Pet. 3–4 (citing Ex. 1003 (Kirkness Decl.) ¶ 44). At this stage, Patent Owner does not dispute Petitioner’s proposal or offer an alternative proposal. *See generally* Prelim. Resp.

Because the proposed level of ordinary skill in the art appears to be consistent with the cited prior art and is undisputed on this record, we adopt it for purposes of this Decision. *See Okajima v. Bourdeau*, 261 F.3d 1350,

¹⁰ For purposes of this Decision, we apply a priority date of November 4, 2005. *See supra* n.3.

1355 (Fed. Cir. 2001) (indicating that the prior art itself may reflect an appropriate skill level).

C. Claim Construction

In AIA proceedings we interpret a claim “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. 282(b).” 37 C.F.R. § 42.100(b). Under this standard, we construe the claim “in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” *Id.*

Petitioner states that it adopts Patent Owner’s interpretation of two claim terms¹¹ as described in Patent Owner’s opening claim construction brief in the Ohio case. Pet. 4–7 (citing Ex. 1054, 16–21). Petitioner, however, does not clearly indicate what Patent Owner’s alleged constructions for the identified terms are, and in the cited claim construction brief (Exhibit 1054, 16–21), Patent Owner appears to be addressing the alleged definiteness of the claim terms, rather than providing a proposed construction. *See id.*

In its Preliminary Response, Patent Owner addresses the meaning of the claim term “data of a severity of the symptoms of the subject.” *See* Prelim. Resp. 19. We address the meaning of this claim term below, in Section II.E.3.

¹¹ The two claim terms are limitation [1.b.iii], which recites: “calculating: i) the data of a severity of the sleep disorder symptoms of the subject, ii) the data of usage of the PAP device by the subject, and/or iii) the index based in whole or in part on either i) or ii) or both i) and ii)”; and limitation [1.c], which recites: “related to the subject’s treatment and the treatment’s efficacy.” *See* Pet. 5.

Aside from our discussion of “data of a severity of the symptoms of the subject” below, we determine we need not address the meaning of any other claim term to decide whether Petitioner satisfies the “reasonable likelihood” standard for instituting trial. *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))).

Any final written decision entered in this case may include express claim constructions, or may include discussion of claim scope that differs from that provided in our analysis below. Any final claim constructions will be based on the full trial record.

D. Overview of Asserted Prior Art

1. Truitt (Ex. 1007)

Truitt, titled “Monitoring Fluid Flow in a Pressure Support System,” issued on November 11, 2003, from U.S. Application 10/027,487 which was filed on December 19, 2001. Ex. 1007, codes (45), (21), (22), (54), (57). Truitt “pertains to a pressure support system in which a flow or volume of gas is measured without using a dedicated flow element used in a conventional flow meter.” *Id.* at code (57).

Truitt's Figure 1 is reproduced below.

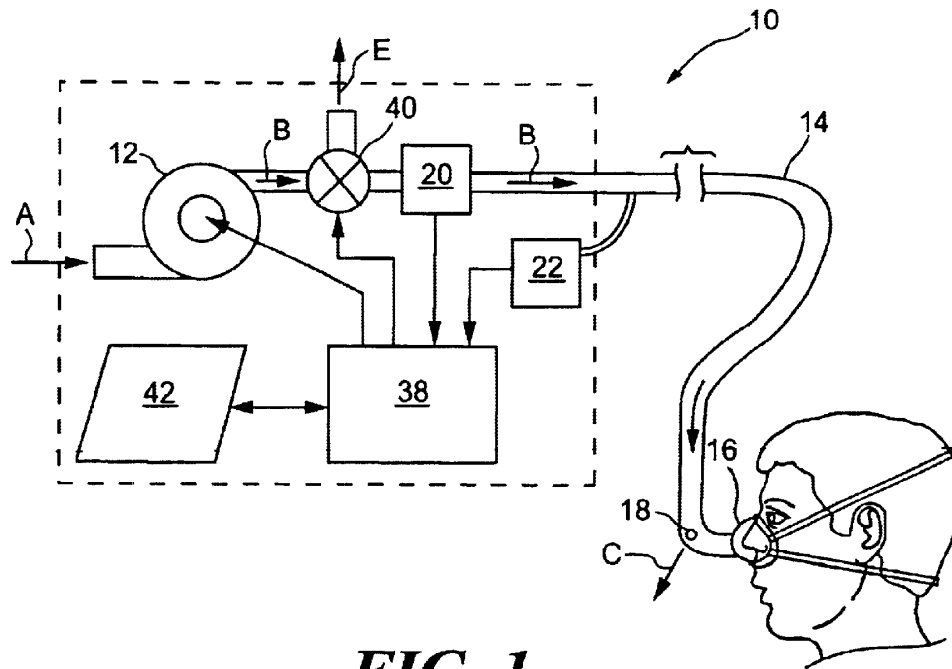


FIG. 1
(PRIOR ART)

Figure 1 depicts conventional pressure support system 10 that includes pressure generator 12 and patient circuit 14 to deliver elevated pressure breathing gas to a patient via patient interface device 16. *Id.* at 1:44–52, 1:56–58. Truitt explains that

[m]ore sophisticated pressure support devices include a flow sensor 20, pressure sensor 22 or both that monitor the flow and/or pressure of gas passing in patient circuit 14. The flow information can also be used to determine the volume of gas passing through patient circuit 14. The information from flow sensor 20 and/or pressure sensor 22 is used, for example, to control the pressure or flow of gas provided to the patient, monitor the condition of the patient, monitor the usage of the pressure support device (patient compliance), or any combination thereof.

Id. at 2:1–10.

Truitt discusses an auto-titration mode of pressure support, where the flow of breathing gas and the pressure level thereof is controlled based on the conditions of the patient, the[] pressure and flow sensors, or other sensors, such as a microphone, are used to detect snoring, apneas, hypopneas, etc. The pressure and/or flow is then controlled to counteract or prevent these conditions.

Id. at 3:5–11.

Figure 3 of Truitt is reproduced below.

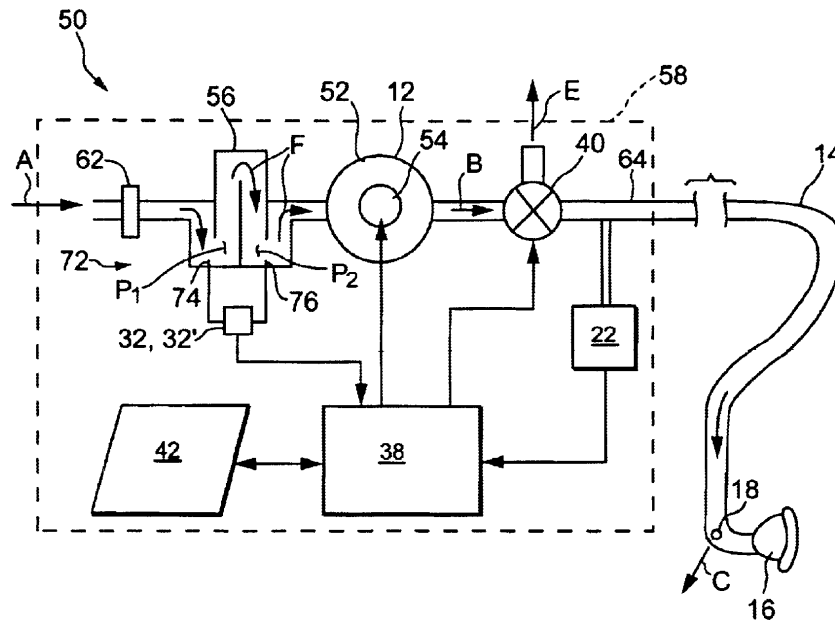


FIG. 3

Figure 3 shows pressure support system 50, which “includes a pressure generator 12 in the form of a blower assembly 52 driven by a motor 54.” *Id.* at 5:1–3. Truitt explains that “[a]n inlet of the blower is coupled to a first conduit 56 that communicates the inlet of the blower to a source of breathing gas for the pressure generator, such as ambient atmosphere.” *Id.* at 5:3–6. Truitt describes “[a] flow/volume sensing system, generally indicated at 72, and which includes the tortuous path defined by first conduit 56, provides a

flow signal to controller 68.” *Id.* at 6:11–13. Truitt states that “[a] conventional pressure sensor 32 measures the pressure differential ΔP ($P_2 - P_1$) via ports 74 and 76, and provides a signal indicative of this pressure differential to controller 38 for calculating the flow and/or volume of gas passing through conduit 56.” *Id.* at 6:38–42. According to Truitt, “[t]he output of flow sensor 32 is provided to controller 38 for calculating the flow and/or volume of gas passing through conduit 56.” *Id.* at 6:46–48.

Truitt explains that

in a bi-level mode of operation, controller 38 receives flow signals and pressure signals from flow/volume sensing assembly 72 and pressure sensor 22, respectively, to distinguish between the inspiratory and expiratory phase of the patient's breathing cycle, as is known in the art, and delivers the appropriate IPAP and EPAP pressures by controlling valve 40, motor 54, or a combination thereof.

Id. at 6:53–60.

2. Kumar (Ex. 1008)

Kumar, titled “System and Method for Real-Time Monitoring, Assessment, Analysis, Retrieval, and Storage of Physiological Data Over a Wide Area Network,” is the December 26, 2002 publication of U.S. Application 10/109,958. Ex. 1008, codes (21), (43), (54).

Kumar relates to “remote monitoring of devices over a wide area network” and to “network-based transmission of data from a physiological collecting device.” *Id.* ¶ 2. We reproduce below Kumar’s Figure 1A.

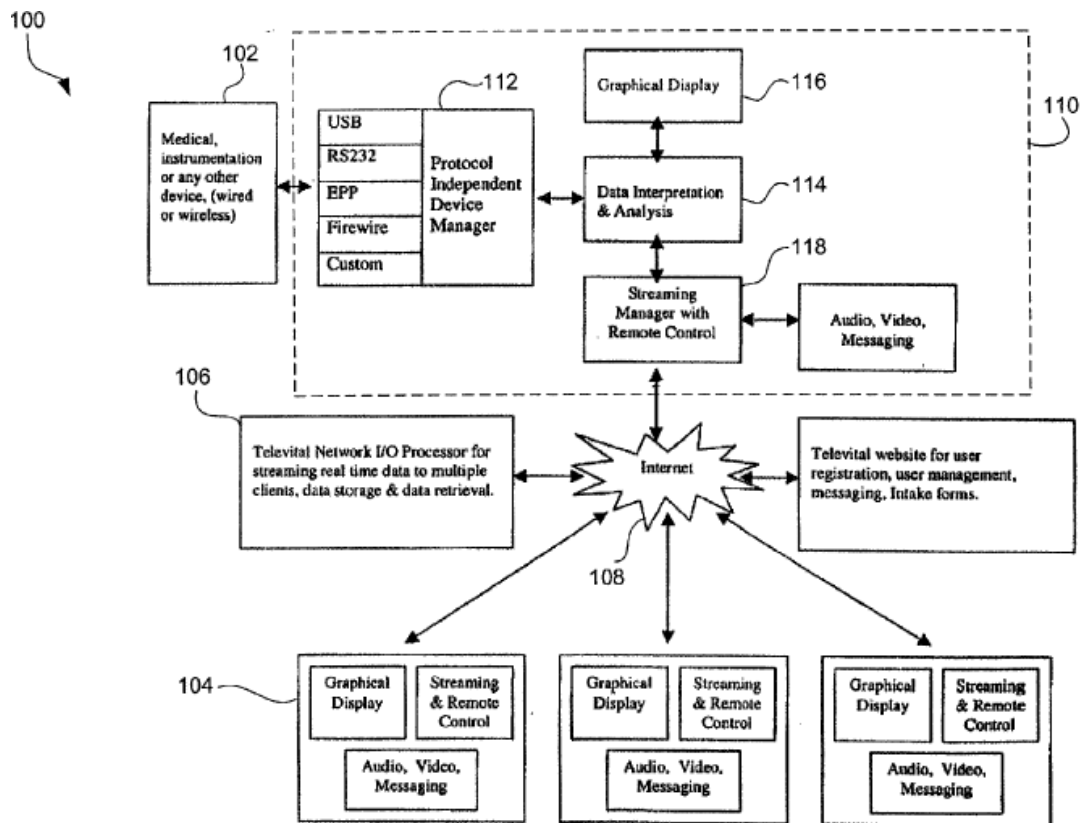


Fig. 1A

Figure 1A shows “an exemplary system architecture for network-based monitoring of data from a patient-side physiological collecting device.” *Id.* ¶ 22. Architecture 100 includes patient-side devices 102 for collecting data from a patient/client, provider-side devices 104, and central server 106 that implements an engine. *Id.* ¶ 67. “The devices and engine are connected to a wide area network (WAN) 108 such as the Internet, intranet, or extranet,” and “[t]he system allows for the real-time streaming of raw, interpreted, and/or processed physiological data as well as textual/audio/video data from a patient to a health care provider.” *Id.*

Patient-side devices 102 may “be connected via a computing device 110, such as a computer, handheld devices such as personal digital assistants (PDAs) and pocket PCs such as IPAQ with Windows CE operating System and Palm devices based on Palm OS[], wireless telephone, or any other computing device, to the WAN.” *Id.* ¶ 72. “A protocol independent device manager 112 running on the computing device establishes a two-way communication with a vast array of client-side devices.” *Id.*

Kumar teaches “a modular architecture in which the patient-side device and/or the computing device coupled to the patient-side device can send a request to the engine with an identifier of the patient-side device, and the engine will send the appropriate plug-in which allows the computing device to communicate with the patient-side device.” *Id.* ¶ 74. Therefore, Kumar’s system “may support both plug-and-play web device drivers and customized graphical user interfaces (GUIs) for the various devices.” *Id.*

“The system may be implemented using Apache web server, MySQL on Linux, Oracle on Linux, Java servlets, Applets, HTML, JavaScript, Java, C#, Microsoft’s .NET etc.” and “the server may be implemented on the Internet, intranet, or an extranet.” *Id.* ¶ 87.

3. *Dong (Ex. 1014)*

Dong, titled “Extended Horizon Adaptive Block Predictive Controller with an Efficient Prediction System,” issued on June 13, 1995, from U.S. Application 08/104,882, which was filed on August 10, 1993. Ex. 1014, codes (45), (21), (22), (54). Dong “relates generally to the control and prediction of multivariable dynamic systems.” *Id.* at 1:7–8.

According to Dong, existing adaptive controllers have “two potentially crippling limitations: (1) computational complexity, which limits

their feasibility in multivariable applications; and (2) sensitivity to the choice of the input-output delays and model order selection.” *Id.* at 1:35–42. In view of this, Dong discloses “[a]n extended horizon adaptive block predictive controller [that] includes a block control system and an adaptive block prediction system.” *Id.* at code (57).

4. Wright (Ex. 1013)

Wright, titled “Methods and Apparatus for Stroke Patient Treatment,” is the December 12, 2002 publication of U.S. Application 10/014,684, which was filed on December 11, 2001. Ex. 1015, codes (43), (21), (22), (54). Wright “relates to methods and apparatus for diagnosing, managing and treating stroke patients both as in-patients and out-patients.” *Id.* ¶ 2.

According to Wright, CPAP systems provide advantages for stroke rehabilitation relative to oxygenation because “some CPAP devices can detect the presence of apneas, distinguish between central and obstructive apneas and provide an increased pressure if needed to stabilize an obstructed or partially obstructed airway.” *Id.* ¶ 27. Wright describes a CPAP system having “two treatment modes, a first mode for treating obstructive apneas and a second mode for treating central apneas.” *Id.* ¶ 31. According to Wright, “[i]n the first mode, the device provides a generally constant pressure throughout a breathing cycle, but may vary the pressure in accordance with indications of partial or complete obstruction of the airway.” *Id.* In the second mode, “the apparatus provides a higher pressure to the mask during the inspiratory portion of the breathing cycle, the so-called IPAP, and a lower pressure to the mask during the expiratory portion of the breathing cycle, the so-called EPAP.” *Id.* ¶ 32. Wright discloses that

“[t]his may be accomplished by monitoring the respiratory flow to the patient and defining a threshold level.” *Id.*

Wright states that “[t]he apparatus may be programmed with a particular protocol intended to identify between alternative forms of CPAP treatment appropriate for the patient based upon an assessment of the patient's condition.” *Id.* at code (57).

5. Mumford (Ex. 1009)

Mumford, titled “Mask Assembly with Integrated Sensors,” issued on August 18, 2009, from U.S. Application 11/131,284, which was filed on May 18, 2005. Ex. 1009, codes (45), (21), (22), (54). Mumford “relates to a mask assembly with integrated sensors for sensing the efficacy of treatment of medical conditions.” *Id.* at 1:18–22.

Mumford explains that “Obstructive Sleep Apnea (OSA) is a life-threatening condition characterized by frequent episodes in which an individual stops breathing or breathes less efficiently during sleep” and “is caused by a blockage of the airway typically resulting from the collapse and closure of the soft tissue in the rear of the throat during sleep.” *Id.* at 1:26–31. According to Mumford, “[w]ith each apnea event, the brain arouses the individual in order for the individual to resume breathing, but consequently sleep is extremely fragmented and of poor quality.” *Id.* at 1:31–35.

Mumford discloses a CPAP system having a monitoring unit and a mask assembly including sensors, physiological information provided by the sensors is processed “according to a sleep efficacy algorithm 36.” *Id.* at 6:63–66, 7:22–37. Mumford states that “[t]he sleep efficacy algorithm 36 monitors the quality of sleep for the wearer 18” which “can include determining how long the wearer 18 is in a given sleep state, how many

different sleep states the wearer 18 has experienced during sleep, the fragmentation of their sleep states and how many arousals the wearer 18 has experienced.” *Id.* at 7:37–46. “[T]he sleep efficacy control algorithm 36 can generate sleep profile information for the wearer 18 (the sleep profile information may include data, such as a test score, related to efficacy and compliance).” *Id.* According to Mumford, “[a]rousals are important for determining the quality of sleep and the efficacy of therapy.” *Id.* at 11:46–48.

Mumford further describes:

The sleep efficacy algorithm 36 further generates a control signal to control the operational parameters of the CPAP device 14 such as activating or deactivating the CPAP device 14 or altering the amount of pressure that is provided to the gas inlet 28 to improve the quality of sleep of the wearer 18.

Id. at 7:46–51.

E. Grounds 1–3 – Alleged Obviousness Over Truitt and Kumar (Ground 1), Truitt, Kumar, and Dong (Ground 2), and Truitt, Kumar, and Wright (Ground 3)

For Ground 1, Petitioner asserts that claims 1–11, 13–16, 18, and 19 are unpatentable as obvious over Truitt and Kumar. Pet. 17–59. For Ground 2, Petitioner asserts that claims 14 and 15 are unpatentable as obvious over Truitt, Kumar, and Dong. *Id.* at 58–61. For Ground 3, Petitioner asserts that claims 12 and 17 are unpatentable as obvious over Truitt, Kumar, and Wright. *Id.* at 62–64.

At this stage of the proceeding, Patent Owner argues that the combination of Truitt and Kumar is missing four limitations recited in claim 1. *See Prelim. Resp.* 12–24.

On this record, and after consideration of Patent Owner’s arguments (discussed below), we find that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to Grounds 1–3. In brief, Petitioner demonstrates that Truitt discloses a PAP treatment system meeting many limitations of the challenged claims. *See, e.g.*, Pet. 12–40. Petitioner adequately demonstrates for purposes of institution that a person of ordinary skill in the art would have been motivated with a reasonable expectation of success to improve Truitt’s PAP device by networking it as taught by Kumar, including because doing so would have permitted the patient to use the PAP machine at home, thereby reducing the need for in-person appointments and allowing physicians to “obtain more representative data.” *See id.* at 7–10. Petitioner also provides a claim-by-claim analysis as to how the asserted prior art combinations teach or suggest each and every limitation of the challenged claims. *See id.* at 12–64.

We now turn to addressing Patent Owner’s arguments.

1. Whether Truitt and Kumar Disclose a PAP Transmitting Severity Data to a Cell Phone and Remote Internet Site

Petitioner argues that Truitt in view of Kumar teaches a PAP device (Truitt’s PAP device) that transmits patient data, including an index of treatment efficacy, data of severity of sleep disorder symptoms, and data of usage of the PAP device, to a cellular device (Kumar’s cell phone) and to a remote internet site (Kumar’s browser based engine). *See, e.g.*, Pet. 24–25, 37–38. We reproduce below Petitioner’s annotated version of Kumar’s Figure 1A:

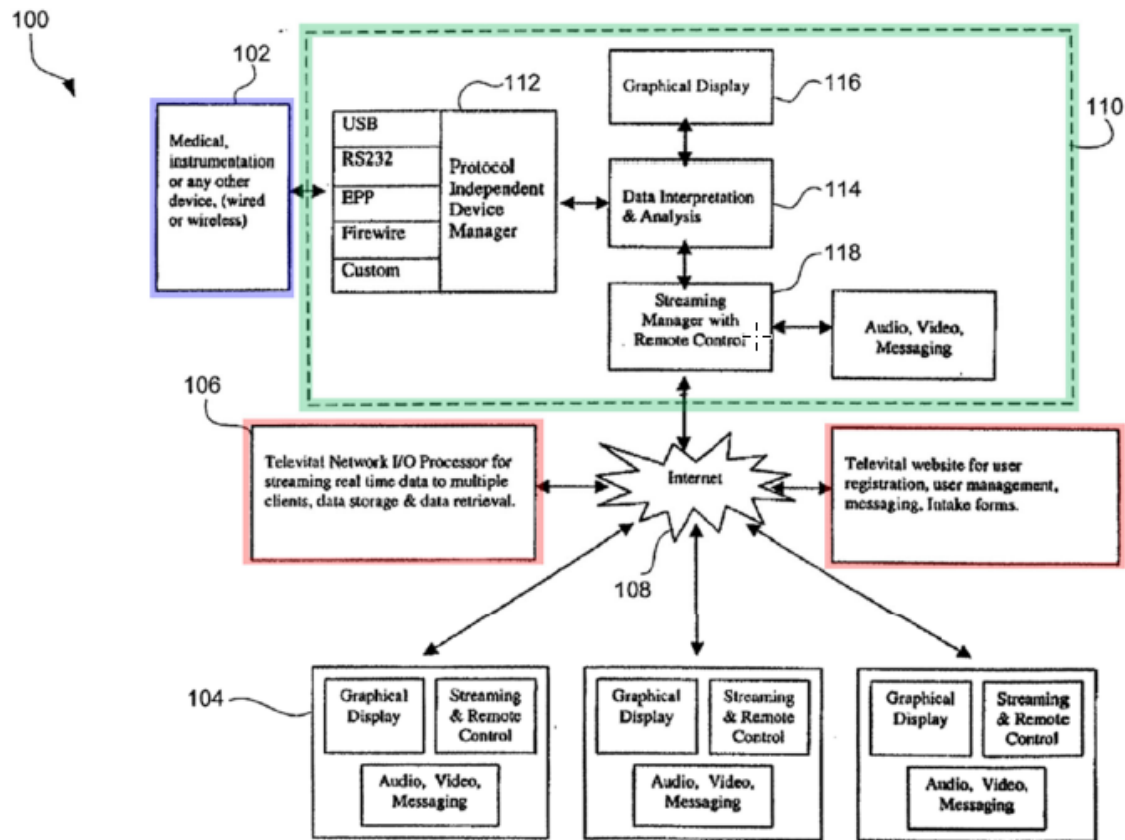


Fig. 1A

EX1008, FIG. 1A

Id. at 35. This figure depicts a system that includes patient-side device 102 (e.g., Truitt's PAP) (outlined in purple), computing device 110 (e.g., a cell phone) (outlined in green), provider-side device(s) 104, and a browser-based engine (e.g., a remote internet site) implemented on a central server 106 (a remote communication system) (outlined in red). *Id.* at 35–36.

Patent Owner disputes that the proposed Truitt/Kumar combination teaches or suggests limitation [1.c], which relates to the remote internet site. *See* Prelim. Resp. 13–14 (quoting [1.c]). Limitation [1.c] recites:

a remote internet site, the remote internet site adapted for receiving i) [data of a severity] and ii) [data of usage of the

PAP], or i), ii), and iii) [index of treatment efficacy], related to the subject's treatment and the treatment's efficacy in whole or part, generated by the PAP device and transmitted via the at least one second radio frequency wireless transceiver.

See Ex. 1001, 24:30–35; Pet. 76. According to Patent Owner, “Truitt in view of Kumar does not disclose transmitting any data to a cell phone **and** to a remote internet site via the PAP's wireless transceiver, as claimed.”

Prelim. Resp. 12 (footnote omitted). This is because, Patent Owner argues, in the Truitt/Kumar system, the severity data is sent to the remote internet site **via** the cell phone, and thus “there is no disclosure in Kumar of **separately** sending the data of severity . . . to a cell phone **and** a remote internet site.” *Id.* at 12–13 (emphasis added). According to Patent Owner, Kumar's Figure 1A shows that “the connection between the patient-side device 102 and central server 106 always traverses computing device 110 (which is alleged to be the claimed ‘cell phone’).” *Id.*

On this record, Patent Owner's argument is unavailing. Even assuming that Patent Owner is correct that in the proposed Truitt-Kumar system the severity data is sent to the remote internet site via the cell phone, on this record Patent Owner has not identified language in claim 1 that prevents this arrangement or requires that the severity data be sent **directly** from the PAP to a remote internet site, without first passing through the cell phone.

2. Whether Truitt Discloses Measuring or Deriving the Respiratory Airflow of a Subject

Patent Owner's next argument focuses on limitation [1.b.ii], which recites, “an **airflow sensor** being any type of sensor internal to the enclosure of the PAP device **adapted for measuring or deriving the respiratory**

airflow of a subject while using the PAP device and outputting airflow sensor data.” Pet. 76 (emphasis added); Prelim. Resp. 15.¹²

For limitation [1.b.ii], Petitioner cites Truitt’s flow sensing system 72, which, among other things, operates “motor 54 and/or valve 40 that control air flow and pressure provided to the patient.” Pet. 28 (citing Ex. 1007 (Truitt) 6:11–62; Ex. 1003 (Kirkness Decl.) ¶ 219; Ex. 1005 (Chatterjee Decl. ¶ 106).

Patent Owner argues that “Petitioner fails to demonstrate that Truitt discloses an internal ***airflow sensor [that] is adapted for measuring or deriving the respiratory airflow of a subject.***” Prelim. Resp. 14 (emphasis added). According to Patent Owner, although “Truitt discloses measuring the airflow ‘provided to the patient,’” Petitioner “fails to explain how measuring the airflow provided to the patient is either a measurement or derivation of the *patient’s* respiratory airflow.” *Id.* at 15 (quoting Pet. 28). Patent Owner further argues that Truitt “does not disclose . . . how to derive the patient’s respiratory airflow from the measurements that its system does take.” *Id.*

On this record, Patent Owner’s argument is unavailing. In the portion of Truitt that Petitioner cites at Petition page 28, Truitt explains that “controller 38 receives flow signals and pressure signals from flow/volume sensing assembly 72 and pressure sensor 22, respectively, to distinguish between the inspiratory and expiratory phase of the patient’s breathing cycle, as is known in the art, and delivers the appropriate IPAP and EPAP

¹² We note that that the claim language Patent Owner quotes on page 15 of the Preliminary Response is similar but not identical to that recited in limitation [1.b.ii].

pressures by controlling valve 40, motor 54, or a combination thereof.” Ex. 1007 (Truitt) 6:53–62; Pet. 28. In other words, Truitt teaches or suggests that signals from the flow and pressure sensors are used to derive the subject’s respiratory airflow as claimed, because these signals are used “to distinguish between the inspiratory and expiratory phase of the patient’s breathing cycle, as is known in the art.” Ex. 1007 (Truitt) 6:53–62; *see also* Pet. 14 (Truitt’s “[c]ontroller 38 may also receive the signals from flow sensor 20 and pressure sensor 22, and ‘uses this information to determine when the patient has transitioned from the inspiratory phase to the expiratory phase of the breathing cycle, or vice versa, to control the pressure accordingly.’”) (quoting Ex. 1007 (Truitt) 2:64–3:4). Consistent with this disclosure, the ’029 patent confirms that airflow and pressure sensors can be used to measure or derive a subject’s respirations. *See* Ex. 1001, 7:44–50 (“The subject’s respirations can be measured by measurement of airflow Measurement of airflow is preferably measuring using sensors or devices such as . . . pressure sensors, . . . and the like.”).

Accordingly, for purposes of institution, we find that Petitioner demonstrates a reasonable likelihood that Truitt teaches or suggests limitation [1.b.ii].

3. *Whether Truitt and Kumar Calculate Data Indicative of the Severity of the Patient's Symptoms*

Patent Owner's argument here focuses on the claim limitation that recites, "calculating: i) the data of a severity of the symptoms of the subject" Ex. 1001, 24:17–20; Prelim. Resp. 24.¹³

Petitioner argues that Truitt discloses this limitation. Pet. 28–29 (citing, e.g., Ex. 1003 (Kirkness Decl.) ¶¶ 220–24; Ex. 1005 (Chatterjee Decl.) ¶¶ 107, 110–13, Pet. 17–21). In brief, Petitioner asserts that "Truitt discloses calculating 'i) the data of a severity of the sleep disorder symptoms of the subject' because it discloses monitoring the patient's condition, and specifically detecting snoring, apneas, and hypopneas." *Id.* at 28. Petitioner asserts that "[a] POSITA would have understood that the patient's conditions, such as snoring, apneas, and hypopneas, are data of different levels of severity of sleep disorder symptoms." *Id.* at 18 (citing Ex. 1003 (Kirkness Decl.) ¶¶ 175–78); *see also* Ex. 1003 (Kirkness Decl.) ¶ 175 ("A POSITA would have understood that the patient's conditions, such as snoring, apneas, and hypopneas, reflect the different levels of severity of sleep disorder symptoms.").

Patent Owner disputes Petitioner's showing—which relies on Truitt's detection of the subject's *symptoms* (such as snoring, apnea, and hypopnea events)—because according to Patent Owner, symptoms "are not 'data of a *severity* of the symptoms of the subject.'" Prelim. Resp. 19. In support of this argument, Patent Owner offers a claim construction, i.e., "[d]ata of the

¹³ We note that that the claim language Patent Owner quotes on page 24 of the Preliminary Response is similar but not identical to that recited in challenged claim 1.

severity of the subject's symptoms are *quantitative determinations or estimations* of the patient's condition based on data from one or more sensors *fed into one or more algorithms.*" *Id.* (emphasis added) (citing Ex. 1001, 19:61–20:23).

On this record, we find that Petitioner adequately demonstrates for purposes of institution that Truitt's PAP device calculates a data of severity of the subject's sleep disorder symptoms. *See* Pet. 17–18. Truitt discloses that in a PAP device operating "[i]n the auto-titration mode," "the flow of breathing gas and the pressure level thereof is controlled based on the conditions of the patient." Ex. 1007 (Truitt) 3:4–11; *see also id.* at 2:57–60. The condition of the patient is determined, in turn, based on signals from sensors "used to detect snoring, apneas, hypopneas, etc.," and "[t]he pressure and/or flow is then controlled to counteract or prevent these conditions." *Id.* at 3:4–11. Dr. Kirkness opines that the patient's condition and symptoms themselves "reflect the different levels of severity of sleep disorder symptoms." Ex. 1003 (Kirkness Decl.) ¶ 175 ("A POSITA would have understood that the patient's conditions, such as snoring, apneas, and hypopneas, reflect the different levels of severity of sleep disorder symptoms.").

Patent Owner's argument depends on adoption of its proposed construction of the term "data of a severity of the symptoms of the subject" as meaning a "quantitative determination[] or estimation[] of the patient's condition based on data from one or more sensors fed into one or more algorithms." Prelim. Resp. 19. However, on this record Patent Owner does not adequately support this proposed construction.

Beginning with the language of the claims themselves, Patent Owner does not point to anything that suggests this narrowing construction, and indeed we see nothing there that describes or requires a “quantitative determination[] or estimation[]” or requires use of “one or more algorithms.” *See generally* Ex. 1001, 23:6–26:59. Patent Owner provides only a single citation to the Specification, which discusses a “quantitative method for estimating or determining the severity of the subject’s sleeping disorder or symptoms” and states that “[v]arious algorithms known to those skilled in the art . . . quantify the level of severity of the subject’s sleeping disorder or symptoms.” *See* Ex. 1001, 19:61–20:23, cited at Prelim. Resp. 19. The cited portion of the Specification does not purport to expressly define the claim term “data of a severity of the symptoms of the subject.” *See, e.g., Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (internal quotations omitted) (“To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning.”).

Patent Owner also does not presently demonstrate that we should read into the claim term “data of a severity of the symptoms of the subject” a requirement of a “quantitative determination[] or estimation[]” or use of an “algorithm[.]” Prelim. Resp. 19. To be sure, the ’029 patent discloses embodiments that use known algorithms to “quantify the level of severity of the subject’s sleeping disorder or symptoms.” *See, e.g.,* Ex. 1001, 20:11–19. But the Specification also appears to indicate that quantification is merely “preferable” (i.e., not required), and is merely one embodiment. *See, e.g., id.* at 19:8–12 (“The signals from the one or more sensors used in various embodiments of the present invention are *preferably analyzed using a*

processor and software that can quantitatively estimate or determine the severity of the subject’s sleeping disorder or symptoms.”) (emphasis added), 4:51–59 (“Finally, in *still another embodiment*, the present invention includes a sleeping disorder treatment system comprising a device for diagnosing and creating a quantitative output of a level of severity of a subject’s sleeping disorder or symptoms”) (emphasis added).

Elsewhere, the Specification more generally states that signals from sensors are “analyzed to determine the level of severity of the symptoms,” without specifying that such analysis must be “quantitative” or performed by an algorithm. *See id.* at 3:41–44. In view of such disclosures, Patent Owner does not persuade us on this record to adopt its narrowing claim construction. Indeed, our reviewing court has “repeatedly warned against confining the claims” to specific embodiments disclosed in the Specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

We are also not presently apprised of relevant extrinsic evidence that supports Patent Owner’s proposed construction. Patent Owner argues that “[a]s the Board determined for a parent of the ’029 Patent, patient monitoring requires disclosure of a quantitative determination of the severity of the symptoms, not mere identification of an event.” Prelim. Resp. 19 (citing *ResMed Corp. v. Cleveland Med. Devices, Inc.*, PGR2024-00012, Paper 7, 16 (PTAB June 24, 2024)). Patent Owner, however, mischaracterizes the cited decision. In the cited case, neither party offered any claim construction, and the Board determined that no claim construction was necessary for purposes of deciding whether to institute post grant review. *See ResMed Corp.*, PGR2024-00012, Paper 7, 8. The page of the

decision Patent Owner cites addresses written description support in the specification for the claims challenged in that PGR, not claim construction. *See id.* at 16. In any event, the cited decision is a decision on institution. The Board’s statements there are, by nature, preliminary findings and conclusions based on a preliminary record, and are not binding here.

On the other hand, Petitioner’s declarant Dr. Kirkness supports Petitioner’s view that “the patient’s conditions, such as snoring, apneas, and hypopneas, reflect the different levels of severity of sleep disorder symptoms,” and that Truitt’s PAP device uses these conditions to adjust the PAP. Ex. 1003 (Kirkness Decl.) ¶¶ 173–75.

Accordingly, for purposes of institution, we find that we need not expressly construe the claim term “data of a severity of the symptoms of the subject” to decide whether Petitioner satisfies the “reasonable likelihood” standard for instituting trial. On this record and for the reasons discussed above, Petitioner adequately demonstrates that Truitt teaches or suggests “calculating: i) the data of a severity of the symptoms of the subject”

4. Whether Truitt and Kumar Disclose Transmitting Severity Data from the PAP to a Cell Phone

Patent Owner next disputes an argument Petitioner makes for limitations [1.a] and [1.b.v]. Specifically, Petitioner asserts that “a POSITA would have been motivated to combine teachings of Truitt and Kumar such that ***the PAP device would wirelessly transmit*** to a patient’s cell phone data associated the patient’s treatment, including . . . ***the data of a severity of the sleep disorder symptoms*** of the subject.” Pet. 29–30 (emphasis added); *see also id.* at 25.

Patent Owner counters that “Petitioner’s proposal that a POSITA would have *calculated severity data at the PAP device* is the product of hindsight.” Prelim. Resp. 16 (emphasis added). This is because, Patent Owner argues, “neither Truitt nor Kumar suggests calculating severity or index data *at a PAP device*,” and “a POSITA reading Kumar and Truitt would not be motivated to add that functionality to Truitt’s PAP device, particularly because Kumar’s computing device already has the necessary computational resources” to “receive multiple streams of data from the patient’s device and analyze the data before sending it to a remote site.” *Id.* at 18, 17 (emphasis added).

Regarding Patent Owner’s argument that “neither Truitt nor Kumar suggests calculating severity or index data at a PAP device,” we first note that Petitioner relies on Truitt, not Kumar, as teaching or suggesting that the PAP device calculates severity or index data. *See* Pet. 17–21. We find that Patent Owner does not adequately explain why Petitioner has not demonstrated that Truitt fails to “suggest[] calculating severity or index data at a PAP device.” *See* Prelim. Resp. 18. To the extent this argument is based on Patent Owner’s proposed claim construction, we address that issue in the previous section.

Regarding Patent Owner’s argument that “a POSITA reading Kumar and Truitt would not be motivated to add that functionality to Truitt’s PAP device,” we find that this argument does not respond to Petitioner’s contentions. As discussed, Petitioner argues that Truitt’s PAP device already calculates severity or index data (*see* Pet. 17–21), and thus we do not presently understand Petitioner to be arguing that a person of ordinary skill in the art would have added this functionality to Truitt’s PAP device. Thus,

Patent Owner’s argument that “a POSITA reading Kumar and Truitt would not be motivated to add that functionality to Truitt’s PAP device” is inapposite in view of Petitioner’s contentions.

Even if the proposed combination requires adding an ability to calculate severity or index data, we are not persuaded by Patent Owner’s argument that a skilled artisan would have added it to Kumar, not Truitt, given that “Kumar’s computing device already has the necessary computational resources” to “receive multiple streams of data from the patient’s device and analyze the data before sending it to a remote site.” Prelim. Resp. 18, 17. This argument takes too narrow a view of Kumar. Kumar’s system “allows for the real-time streaming” of not only “raw” physiological data, but also of data that has already been “interpreted” or “processed.” Ex. 1008 (Kumar) ¶ 10.

Accordingly, for purposes of institution, we find that Petitioner adequately demonstrates that “a POSITA would have been motivated to combine teachings of Truitt and Kumar such that *the PAP device would wirelessly transmit* to a patient’s cell phone data associated the patient’s treatment, including . . . the *data of a severity of the sleep disorder symptoms* of the subject.” Pet. 29–30 (emphasis added).

5. Conclusion – Grounds 1–3

On this record, we find that Petitioner has demonstrated a reasonable likelihood of prevailing with respect to at least one of the claims challenged in Grounds 1–3.

F. Grounds 4–6 – Alleged Obviousness Over Truitt, Kumar, and Mumford (Ground 4), Truitt, Kumar, Dong, and Mumford (Ground 5), and Truitt, Kumar, Wright, and Mumford (Ground 6)

Grounds 4–6 present the same combinations of prior art presented for Grounds 1–3, but add Mumford for its disclosure of a sleep efficacy algorithm. Pet. 64. Petitioner offers these grounds as an alternative to Grounds 1–3, in the event we find that “Truitt does not disclose calculating ‘data of usage of the PAP device by the subject,’ ‘data of severity of sleep disorder symptoms of the subject,’ and/or ‘the index [of treatment efficacy of the subject using a PAP device is] based in whole or in part on a data of severity of sleep disorder symptoms of the subject and/or a data of usage of the PAP device by the subject.’” *Id.* at 66–67.

As discussed above, we find Petitioner’s Grounds 1–3 sufficient for purposes of institution. As such, we “authorize the review to proceed on all of the challenged claims.” 37 C.F.R. § 42.108(a). Nevertheless, to provide the parties guidance going forward, we address Patent Owner’s arguments regarding Grounds 4–6 below.

Patent Owner argues that “[t]here is no motivation provided in Mumford to use its sleep efficacy algorithm with a PAP device like Truitt’s.” Prelim. Resp. 25. This is because, Patent Owner argues, “the primary inputs used in [Mumford’s] algorithm come from the electrode signals located in the mask” and from EEG, EOG, and EMG sensors, which sensors do not exist in Truitt. *Id.* (citing Ex. 1009 (Mumford) 1:56–2:12, 4:24–35, 10:66–11:16, 12:62–13:22, 15:39–16:3). According to Patent Owner, the only input into Mumford’s algorithm in the proposed combination would be data from Truitt’s flow sensing assembly. *Id.*

This argument is unavailing on this record. As an initial matter it is not clear that in the proposed combination, the “only input to [Mumford’s] algorithm would be from [Truitt’s] flow sensing assembly.” Prelim.

Resp. 25. As stated in the Petition, Truitt’s PAP device may contain “other sensors, such as a microphone,” to detect the conditions of the patient. *See* Pet. 14 (citing Ex. 1007 (Truitt) 3:4–11); *see also id.* at 18; Ex. 1007 (Truitt) 6:60–62 (“[O]ther sensors can be provided to provide additional information to the controller.”).

Additionally, the test for obviousness is not whether Mumford’s mask and sensors can be bodily incorporated into Truitt’s PAP device. *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Rather, “the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *Id.* Here, the level of skill in the art is reasonably high, with skilled artisans having at least two years of relevant product design experience working with diagnostic sensor systems and network data systems, such as networked PAP machines. *See supra* Section II.B. Mumford teaches that “[t]he sleep efficacy algorithm 36 may use standard techniques, as is commonly known to those skilled in the art.” Ex. 1009 (Mumford), 7:51–54. Dr. Kirkness indicates that using Mumford’s algorithm with Truitt’s PAP

would have involved a combination of known technologies (PAP device that use sensors to detect and treat sleep disorder, as taught by the Truitt-based combinations) according to known methods (using sleep efficacy algorithm to adjust treatment as taught by Mumford) to yield the predictable result of a system including a PAP device of improved efficacy in treating sleep disorder.

Ex. 1003 (Kirkness Decl.) ¶ 331. Dr. Kirkness also indicates that Mumford’s algorithm could be used with data from Truitt’s air flow/pressure sensor(s). *See id.* ¶ 329 (“A POSITA would have understood that use [of] the algorithm, with the Truitt’s air flow/pressure sensor(s), would have improved treatments.”); *see also* Pet. 18 (citing Ex. 1007 (Truitt) 3:4–11 as teaching that the flow and pressure sensors can be used to detect apneas and hypopneas). In view of the above considerations, the present record adequately demonstrates for purposes of institution that a person of ordinary skill in the art would have known how to modify Mumford’s algorithm to use data from Truitt’s flow sensing assembly (and any additional sensors) to determine sleep efficacy, even if the proposed combination lacks Mumford’s mask sensors.

Patent Owner also argues that a person of ordinary skill in the art would not have used Mumford’s algorithm in Truitt’s system without Mumford’s mask, because “the sleep efficacy algorithm would not provide any capability not already found within Truitt.” Prelim. Resp. 28–29. According to Patent Owner, “Truitt discloses that the flow and pressure sensors can be used to detect apneas which provides substantially the same functionality disclosed for Mumford’s algorithm when its only input is from the pressure sensor.” Prelim. Resp. 28–29. This argument is unavailing, as it fails to account for the effect of data available from Truitt’s “other sensors, such as a microphone.” Ex. 1007 (Truitt) 3:4–11, 6:60–62 (“It is to be further understood that other sensors can be provided to provide additional information to the controller.”). Additionally, Patent Owner does not presently support its attorney argument that without Mumford’s mask and its

integrated sensors, Mumford’s “sleep efficacy algorithm would not provide any capability not already found within Truitt.” Prelim. Resp. 29.

III. CONCLUSION

For the foregoing reasons, we determine that the information presented establishes a reasonable likelihood that Petitioner would prevail in showing that at least one of the challenged claims of the ’029 patent is unpatentable.

At this preliminary stage, we have not made a final determination regarding the patentability of any challenged claim or any underlying factual or legal issue. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually proving invalidity by a preponderance of the evidence at trial”). Any final decision in this proceeding will be based on the full trial record.

The Board will deem forfeited any issue not raised by Patent Owner in a timely response to the Petition, or as permitted in another manner during trial, even if asserted in the Preliminary Response or discussed in this Decision.

Nothing in this Decision authorizes Petitioner, in a manner not otherwise permitted by the Board’s rules, to supplement the information pertaining to any ground advanced in the Petition.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted based on all grounds asserted in the Petition; and

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FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this Decision.

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