UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

OMNI MEDSCI, INC.,
Patent Owner.

IPR2019-00914
Patent 9,861,286 B1

Before GRACE KARAFFA OBERMANN, JOHN F. HORVATH, and SHARON FENICK, *Administrative Patent Judges.*

OBERMANN, *Administrative Patent Judge*.

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

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Apple Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 16, 17, 19, and 20 ("the challenged claims") of U.S. Patent No. 9,861,286 B1 (Ex. 1001, "the '286 patent"). Paper 1 ("Pet."), 3. Omni MedSci Inc. ("Patent Owner"), filed a Preliminary Response. Paper 7 ("Prelim. Resp."). With Board pre-authorization (Paper 9), Petitioner filed a Reply (Paper 10, "Reply") and Patent Owner filed a Sur-Reply (Paper 12, "Sur-Reply"). We have jurisdiction under 35 U.S.C. § 314.

Based on the information presented, for the reasons that follow, we find that Petitioner demonstrates a reasonable likelihood that it would prevail at trial in showing the unpatentability of at least one challenged claim of the '286 patent. Accordingly, we institute *inter partes* review of all challenged claims on all grounds of unpatentability raised in the Petition.

I. BACKGROUND

A. Related Matters

The parties agree that Patent Owner asserts the '286 patent against Petitioner in two district court actions: *Omni MedSci Inc. v. Apple Inc.*, 2-18-cv-00134-RWD (E.D. Tex.); and *Omni MedSci Inc. v. Apple Inc.*, 2-18-cv-00429-RWD (E.D. Tex.).[1] *See* Pet. xi; Paper 3, 1–2.

[1] The district court cases recently were transferred to the Northern District of California. Paper 8, 1; *see* Sur-Reply 1 (citing Ex. 2013, 33; Ex. 1057, 1). The first identified action forms the basis for Patent Owner's contention (discussed *infra* pp. 33–35) that the Board should issue a discretionary denial under 35 U.S.C. § 314(a) based on the advanced stage of a parallel district court proceeding. Prelim. Resp. 4 (citing Ex. 1004). That case has been transferred to "Judge Gonzalez Rogers," but no "schedule for the remaining briefs or a trial date" has been set. Sur-Reply 2.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

The ’286 patent is the subject of a second petition in IPR2019-00911 filed by Petitioner on the same day as the instant Petition. Concurrently herewith, we file a decision denying institution of *inter partes* review in that related proceeding. We previously denied Petitioner’s request for review in IPR2019-00910 (Paper 16 in that proceeding) and granted Petitioner’s request in IPR2019-00917 (Paper 14 in that proceeding), both of which, according to Petitioner, relate to a patent in the same family as the ’286 patent. Pet. xi.

B. Evidence Relied Upon

Reference		**Date**	**Exhibit**
Hanna	US 6,505,133 B1	Jan. 7, 2003	1007
Mannheimer	US 5,746,206	May 5, 1998	1008
Carlson	US 2005/0049468 A1	Mar. 3, 2005	1009
Lisogurski	US 9,241,676 B2	May 31, 2012[2]	1011

Petitioner also relies upon the Declaration of Brian Anthony, Ph.D., (Ex. 1003). Based on information provided in his Declaration (Ex. 1003 ¶¶ 2–9) and Curriculum Vitae (Ex. 1053), for purposes of this Decision only, we determine that Dr. Anthony is qualified to opine about the level of ordinary skill in the art. Patent Owner is free to oppose this preliminary determination in a timely filed Response.

[2] Petitioner relies on the filing date of Lisogurski to establish its status as prior art. *See* Pet. 20.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

C. Asserted Grounds of Unpatentability

Claims Challenged	35 U.S.C. §	References
16, 17, 19, and 20	103	Lisogurski and Carlson
16, 17, 19, and 20	103	Lisogurski, Carlson, and Hanna
20	103	Lisogurski, Carlson, and Mannheimer with or without Hanna

D. Overview of the '286 Patent

The '286 patent is titled "Short-Wave Infrared Super-Continuum Lasers for Early Detection of Dental Caries." Ex. 1001, code (54). The invention relates to "[a] wearable device for use with a smart phone or tablet" that includes light emitting diodes ("LEDs") "for measuring physiological parameters by modulating the LEDs and generating a near-infrared multi-wavelength optical beam." Ex. 1001, code (57). "At least one LED emits at a first wavelength having a first penetration depth and at least another LED emits at a second wavelength having a second penetration depth into tissue." *Id*. Lenses "deliver the optical beam to . . . tissue, which reflects the first and second wavelengths. A receiver is configured to capture light while the LEDs are off and while at least one of the LEDs is on." *Id*. The receiver also is configured "to difference" the "corresponding signals to improve a signal-to-noise ratio of the optical beam reflected from the tissue. The signal-to-noise ratio is further increased by increasing light intensity of at least one of the LEDs." *Id*. Further, the device may generate "an output signal representing a non-invasive measurement on blood within the tissue." *Id*.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

The Specification of the ’286 patent describes a device that employs near-infrared light, that is, light in the spectrum between approximately 700 nanometers to about 2500 nanometers, to provide non-invasive and non-contact detection of dental caries in teeth. *Id.* at 2:62–3:14, 3:30–42, 6:7–9, 6:31–43. The Specification also describes the use of a light to determine blood flow and blood constituents in blood vessels. *Id.* at 8:67–9:4; *see id.* at 16:3–1 (“In one embodiment shown in FIG. 6A, the dorsal of the hand 600 may be used for measuring blood constituents or analytes.”). This light is provided in an input beam generated by a plurality of LEDs. *Id.* at code (57), 5:46–54. A sample of tissue, such as skin or teeth, reflects at least a portion of the input optical beam and a receiver receives the reflected beam to generate an output signal representing, at least in part, a non-invasive measurement on blood contained within the sample. *Id.* at code (57), 5:3–13, 39:43, 6:4–17. The Specification further describes, and the claimed invention requires, a light source that is “configured to further improve the signal-to-noise ratio of the input optical beam reflected from the tissue by increasing the light intensity relative to the initial light intensity from at least one of the LEDs.” *Id.* at 30:15–18 (claim 1); *see id*. at code (57), 5:14–18, 6:17–21 (describing that configuration). Figure 1 is illustrative and reproduced below:

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

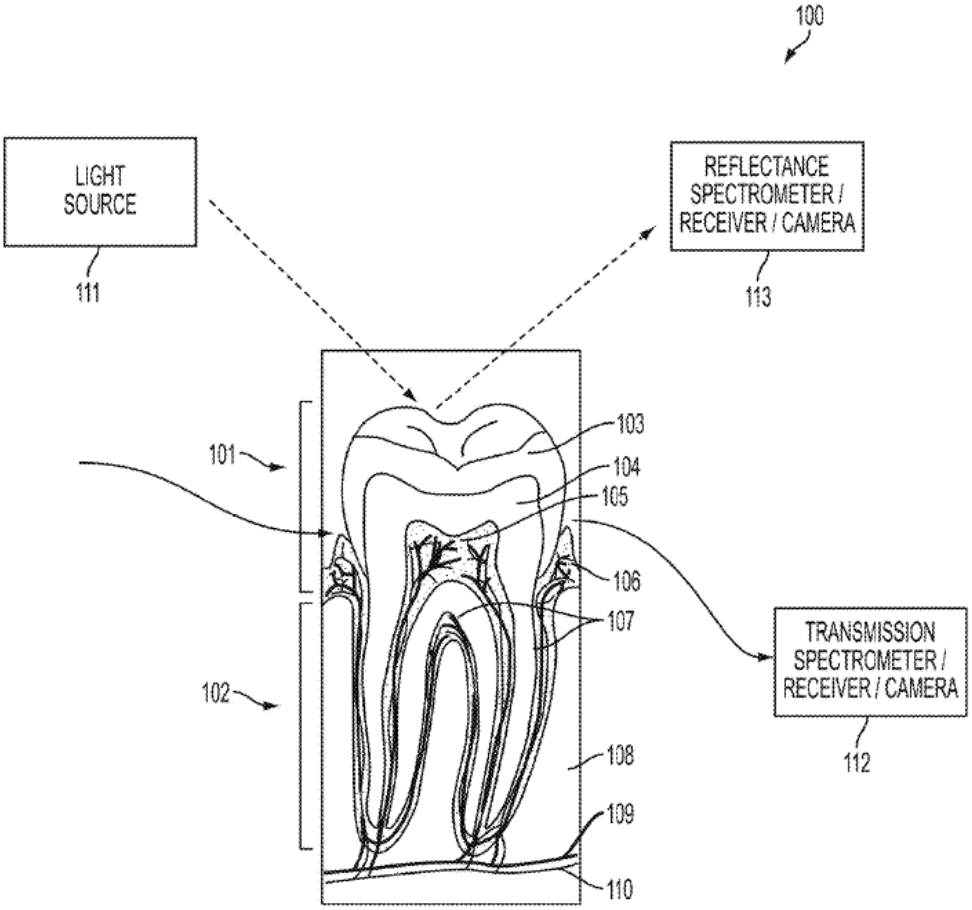

FIG. 1

Ex. 1001, Fig. 1. Figure 1 is an illustration of the structure of tooth 100, and further illustrates a system that includes light source 111, transmission spectrometer, receiver, or camera 112, and reflectance spectrometer, receiver or camera 113. *Id.* at 6:64, 13:13–37.

As shown in Figure 1, light from light source 111 is directed towards tooth 100 with crown 101 and root 102. *Id.* at 13:13–37. A reflectance measurement is taken by detecting the reflectance at reflectance spectrometer/receiver/camera 113. *Id*. An output signal includes a measurement on blood contained within the tissue. *Id.* at code (57), 4:24–

27. The light source is configured to improve a signal-to-noise ratio of the optical beam reflected from the tissue by increasing the light intensity of the light source from an initial light intensity to an increased light intensity. *Id.* at code (57), 3:56–60, 4:12–24, 51–55, 5:12–16, 30:15–18. The Specification further discloses "change detection schemes" that "may be used, where the detection system captures the signal with the light source on and with the light source off. . . . Then, the signal with and without the light source is differenced. This may enable the sun light changes to be subtracted out." *Id.* at 24:20–26.

E. Illustrative Claim

Claim 16 of the '286 patent, reproduced below, is the only challenged independent claim and illustrates the subject matter at issue.

> 16. A wearable device for use with a smart phone or tablet, the wearable device comprising:
>
> a measurement device including a light source comprising a plurality of light emitting diodes (LEDs) for measuring one or more physiological parameters, the measurement device configured to generate, by modulating at least one of the LEDs having an initial light intensity, an optical beam having a plurality of optical wavelengths, wherein at least a portion of the plurality of optical wavelengths is a near-infrared wavelength between 700 nanometers and 2500 nanometers;
>
> the measurement device comprising one or more lenses configured to receive and to deliver a portion of the optical beam to tissue, wherein the tissue reflects at least a portion of the optical beam delivered to the tissue, and wherein the

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

measurement device is adapted to be placed on a wrist or an ear of a user;

the measurement device further comprising a receiver configured to:

capture light while the LEDs are off and convert the captured light into a first signal and

capture light while at least one of the LEDs is on and convert the captured light into a second signal, the captured light including at least a portion of the optical beam reflected from the tissue;

the measurement device configured to improve a signal-to-noise ratio of the optical beam reflected from the tissue by differencing the first signal and the second signal;

the light source configured to further improve the signal-to-noise ratio of the input optical beam reflected from the tissue by increasing the light intensity relative to the initial light intensity from at least one of the LEDs;

the measurement device further configured to generate an output signal representing at least in part a non-invasive measurement on blood contained within the tissue; and

wherein the receiver includes a plurality of spatially separated detectors, wherein at least one analog to digital converter is coupled to the spatially separated detectors.

Ex. 1001, 29:33–30:25.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

II. ANALYSIS

A. Person of Ordinary Skill in the Art

Petitioner asserts:

> A person of ordinary skill in the art ("skilled person") would have a good working knowledge of optical sensing techniques and their applications, and familiarity with optical system design and signal processing techniques. That knowledge would have been gained via an undergraduate education in engineering (electrical, mechanical, biomedical or optical) or a related field of study, along with relevant experience in studying or developing physiological monitoring devices (e.g., non-invasive optical biosensors) in industry or academia.

Pet. 15 (citing Ex. 1003 ¶ 35). Petitioner further asserts, "[t]his description is approximate; varying combinations of education and practical experience also would be sufficient." *Id*. Patent Owner does not contest or discuss this description in the Preliminary Response.

For purposes of this Decision, we adopt Petitioner's proposed definition because it is consistent with the level of skill reflected in the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art). Patent Owner is free to dispute that issue in a timely filed Response.

B. Claim Construction

In an *inter partes* review, we interpret claim terms 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). Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,343 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

C.F.R. § 42.100(b) (2019)). Under that 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.* Only claim terms in dispute need be construed and then only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017). The parties discuss possible claim constructions for the terms "beam" (Pet. 17–18; Prelim. Resp. 10–11); "optical beam" (Prelim. Resp. 10–11); "one or more lenses" (Pet. 18–19; Prelim. Resp. 11–12); and "modulating at least one of the LEDs" (Pet. 19–20; Prelim. Resp. 12–14).

With respect to the term "modulating at least one of the LEDs," Petitioner and Patent Owner both propose that we use the construction adopted by the District Court in the Eastern District of Texas, namely "varying the amplitude, frequency, or phase of the light produced by at least one of the LEDs to include information." Pet. 16–17; Prelim Resp. 12–14. In analyzing this term, the District Court found "modulation includes information about the source of the light" because the Specification discloses "[t]he 'optical light' and or 'optical beam' and or 'light beam' may be modulated or unmodulated, which also means that they may or may not contain information." Ex. 2007, 15 (quoting Ex 1001, 8:27–29). Thus, according to the District Court, "under the customary meaning of 'modulating,' pulsing may add information by turning the light on and off." *Id*. at 16. We accept this construction as proposed by both parties, because the construction is consistent with the Specification and, as explained by the District Court, includes pulsing a light source to turn it on and off.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

We determine at this time that no other claim terms require construction in order to complete our analysis.

C. Overview of the Prior Art

1. Lisogurski

Lisogurski discloses a "physiological monitoring system [that] monitor[s] one or more physiological parameters of a patient . . . using one or more physiological sensors." Ex. 1011, 3:44–46. The physiological sensors may include a "pulse oximeter [that] non-invasively measures the oxygen saturation of a patient's blood." *Id.* at 3:62–64. The pulse oximeter includes "a light sensor that is placed at a sight on a patient, typically a fingertip, toe, forehead, or earlobe." *Id.* at 4:6–7. The light sensor "pass[es] light through blood perfused tissue and photoelectrically sense[s] the absorption of the light in the tissue." *Id.* at 4:8–10. The light sensor emits "one or more wavelengths [of light] that are attenuated by the blood in an amount representative of the blood constituent concentration," and may include red and infrared (IR) wavelengths of light. *Id.* at 4:42–48. Figure 3 of Lisogurski is reproduced below.

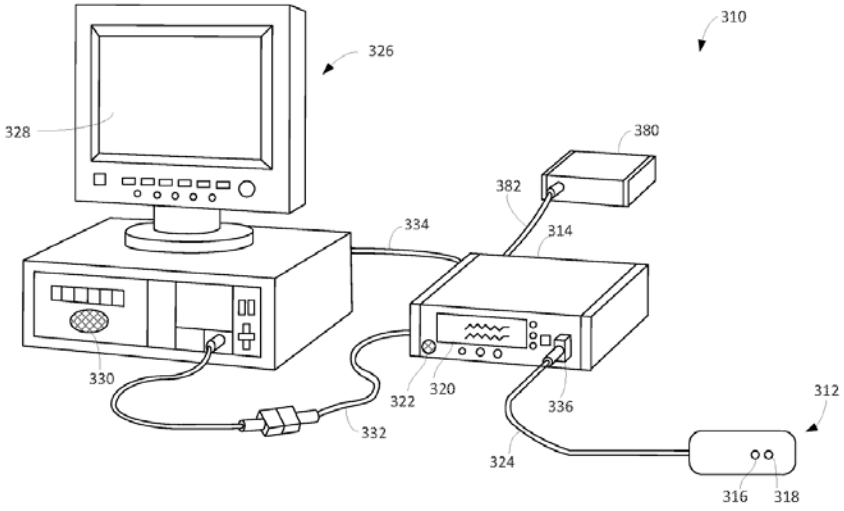

FIG. 3

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Figure 3 of Lisogurski is "a perspective view of a physiological monitoring system." *Id.* at 2:23–25. The system includes sensor 312, monitor 314, and multi-parameter physiological monitor 326. *Id.* at 17:35–36, 18:44–45. Sensor 312 includes "one or more light sources 316 for emitting light at one or more wavelengths," and detector 318 for "detecting the light that is reflected by or has traveled through the subject's tissue." *Id.* at 17:37–42. Sensor 312 may have "[a]ny suitable configuration of light source 316 and detector 318," and "may include multiple light sources and detectors [that] may be spaced apart." *Id.* at 17:42–45. Light source 316 may include "LEDs of multiple wavelengths, for example a red LED and an IR [LED]." *Id.* at 19:25–27. Sensor 312 may be "wirelessly connected to monitor 314." *Id.* at 17:57–59.

Monitor 314 "calculate[s] physiological parameters based at least in part on data relating to light emission . . . received from one or more sensor units such as sensor unit 312." *Id.* at 17:59–62. Monitor 314 includes "display 320 . . . to display the physiological parameters," and "speaker 322 to provide an audible . . . alarm in the event a subject's physiological parameters are not within a predefined normal range." *Id.* at 18:3–10. Monitor 314 is "communicatively coupled to multi-parameter physiological monitor 326" ("MPPM 326") and "may communicate wirelessly" with MPPM 326. *Id.* at 18:58–61. Monitor 314 may also be "coupled to a network to enable the sharing of information with servers or other workstations." *Id.* at 18:62–65.

Multi-parameter physiological monitor 326 may also "calculate physiological parameters and . . . provide a display 328 for information from monitor 314." *Id.* at 18:49–52. MPPM 326 may also be "coupled to a

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

network to enable the sharing of information with servers or other workstations." *Id.* at 18:62–65. The remote network servers may also "be used to determine physiological parameters," and may display the parameters on a remote display, display 320 of monitor 314, or display 328 of MPPM 326. *Id.* at 20:53–58. The remote servers may also "publish the data to a server or website," or otherwise "make them available to a user." *Id.* at 20:58–60.

Lisogurski discloses that the monitoring system shown in Figure 3, described above, "may include one or more components of physiological monitoring system 100 of FIG. 1." *Id.* at 17:32–35. Lisogurski further discloses that although "the components of physiological monitoring system 100 . . . are shown and described as separate components. . . . the functionality of some of the components may be combined in a single component," and "the functionality of some of the components . . . may be divided over multiple components." *Id.* at 15:66–16:8. Figure 1 of Lisogurski is reproduced below.

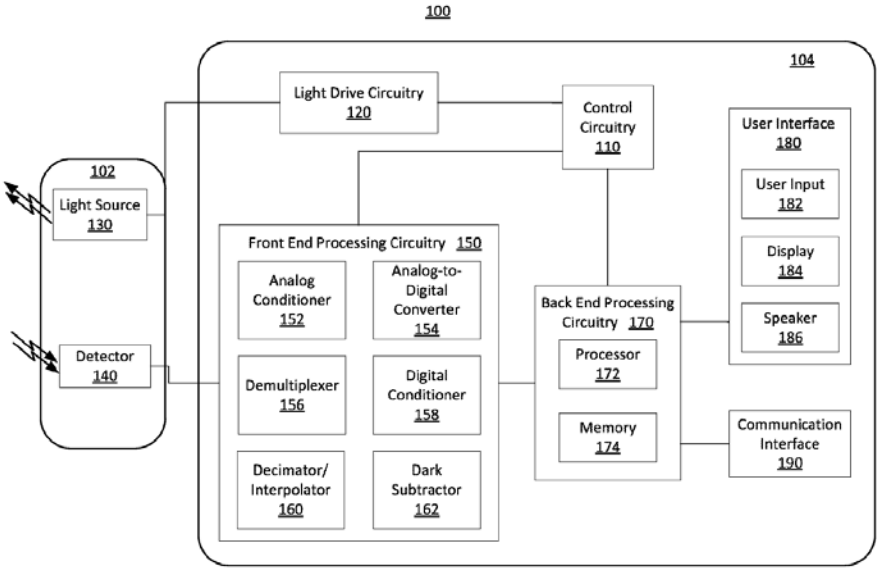

FIG. 1

Figure 1 of Lisogurski is a "block diagram of an illustrative physiological monitoring system." Ex. 1011, 2:11–13. The system includes "sensor 102 and monitor 104 for generating and processing physiological signals of a subject." *Id.* at 10:44–46. Sensor 102 includes "light source 130 and detector 140." *Id.* at 10:48–49. Light source 130 includes "a Red light emitting source and an IR light emitting source," such as Red and IR emitting LEDs, with the IR LED emitting light with a "wavelength between about 800 nm and 1000 nm." *Id.* at 10:52–58. Detector 140 "detect[s] the intensity of light at the Red and IR wavelengths," converts them to an electrical signal, and "send[s] the detection signal to monitor 104, where the detection signal may be processed and physiological parameters determined." *Id.* at 11:9–10, 11:20–23.

Monitor 104 includes user interface 180, communication interface 190, and control circuitry 110 for controlling (a) light drive circuitry 120, (b) front end processing circuitry 150, and (c) back end processing circuitry 170 via "timing control signals." *Id.* at 11:33–38, Fig. 1. Light drive circuitry 120 "generate[s] a light drive signal . . . used to turn on and off the light source 130, based on the timing control signals." *Id.* at 11:38–40. The light drive signal "control[s] the intensity of light source 130 and the timing of when the light source 130 is turned on and off." *Id.* at 11:50–54. Front end processing circuitry 150 "receive[s] a detection signal from detector 140 and provides one or more processed signals to back end processing circuitry 170." *Id.* at 12:42–45. Front end processing circuitry 150 also "synchronize[s] the operation of an analog-to-digital converter and a demultiplexer with the light drive signal based on the timing control signals." *Id.* at 11:43–46.

Back end processing circuitry 170 "use[s] the timing control signals to coordinate its operation with front end processing circuitry 150." *Id.* at 11:46–49. Backend processing circuitry 170 includes processor 172 and memory 174, and "receive[s] and process[es] physiological signals received from front end processing circuitry 150" in order to "determine one or more physiological parameters." Ex. 1011, 14:56–57, 14:60–64. Backend processing circuitry 170 is "communicatively coupled [to] user interface 180 and communication interface 190." *Id.* at 15:16–18. User interface 180 includes "user input 182, display 184, and speaker 186," and may include "a keyboard, a mouse, a touch screen, buttons, switches, [and] a microphone." *Id.* at 15:19–22. Communication interface 190 allows "monitor 104 to exchange information with external devices," and includes transmitters and receivers to allow wireless communications. *Id.* at 15:43–44, 15:48–57.

Lisogurski teaches the physiological monitoring system may modulate the light drive signal to have a "period the same as or closely related to the period of [a] cardiac cycle." Ex. 1011, 25:49–51. Thus, "[t]he system may vary parameters related to the light drive signal including drive current or light brightness, duty cycle, firing rate, . . . [and] other suitable parameters." *Id.* at 25:52–55. Lisogurski further teaches, "the system may alter the cardiac cycle modulation technique based on the level of noise, ambient light, [and] other suitable reasons." *Id.* at 9:46–48. Thus, "[t]he system may increase the brightness of the light sources in response to [any] noise to improve the signal-to-noise ratio." *Id.* at 9:50–52. The system may also "change from a modulated light output to a constant light output in response to noise, patient motion, or ambient light." *Id.* at 9:57–60.

2. Carlson

Carlson discloses an "optical pulsoximetry [device] used for non-invasive measurement of pulsation and oxygen saturation in arterial human or animal blood." Ex. 1009 ¶ 2. The device measures the light "absorption of reduced (Hb)—and oxidized (HbO_2) h[e]moglobin at two optical wavelengths, where the relative absorption coefficients differ significantly." *Id.* ¶ 3.

Figure 2 of Carlson is reproduced below.

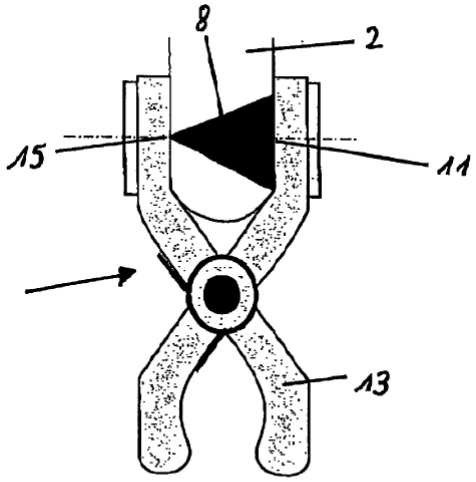

Figure 2

Figure 2 of Carlson is a schematic illustration of an ear clip sensor 1 of a pulse oximeter device. *Id.* ¶¶ 33, 49. Sensor 1 includes light source 15, which transmits light beam 8 through a patient's earlobe 2, and light detector 11 to detect the transmitted light. *Id.* ¶ 49. Light source 15 emits light at two wavelengths—660 nm and 890 nm—and can consist of two LEDs. *Id.* ¶ 50.

Carlson's pulse oximeter can be used to "survey the heath condition of a person or an animal [that] is mobile," and is "not restricted for use in,

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

e.g., a hospital." *Id.* ¶ 72. Carlson teaches that "standard pulsoximeter sensors suffer from signal instability and insufficient robustness versus environmental disturbances." *Id.* ¶ 4. For example, when a sensor is worn by a person driving along a tree-lined avenue, the sensor will receive sunlight "at a certain frequency" such that "every time when passing a tree, sunlight is attenuated and between the trees sunlight is influencing the measurement of the pulsoximeter sensor." *Id.* ¶ 68. To address such problems, Carlson includes "optical and/or electronic means for increasing Signal-to-Noise ratio (S/N) . . . of a pulsoximeter sensor for robust application of pulsoximetry in telemedicine- and near patient testing applications in rough (optical) environmental conditions." *Id.* ¶ 10. In particular, the LEDs in Carlson's sensor emit light "not as a current or continuous light but as pulsed light." *Id.* ¶ 69. Carlson's sensor also uses "AC-Coupling or Lock-In Amplification (synchronous detection) . . . to temporarily modulate the amplitude of the optical radiation of . . . the LED at a carrier frequency f_0 in order to shift the power spectrum of the pulsoximeter signals into a higher frequency range." *Id.* ¶ 20. Modulation frequency f_0 is selected to be "outside the frequency spectrum of sunlight and of ambient light." *Id.* ¶ 69. This allows the pulse oximeter signal to be easily discriminated from environmental signals, such as sunlight and ambient light, and "increas[es] significantly the Signal-to-Noise and Signal-to-Background ratio." *Id.*

Carlson further discloses that sensor 1 can be wirelessly connected to "a special unit worn by [a] person or patient," where "a signal is generated if [a] measured value is not within a predetermined range." *Id.* ¶¶ 77–78. The generated signal can be "transmitted to a respective person, to a medical

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

doctor, to a hospital, etc." *Id.* ¶ 78. The pulse oximeter can also include a "GPS device which at any time gives the location of the person using the pulsoximetric sensor monitoring configuration." *Id.*

3. Mannheimer

Mannheimer discloses a pulse oximetry device that "non-invasively measure[s] blood oxygen saturation of arterial blood in vivo." Ex. 1008, 1:10–13. Mannheimer's device performs a "pulsed oximetry measurement [that] isolates arterial saturation levels for particular ranges of tissue layers . . . by utilizing multiple spaced detectors and/or emitters." *Id.* at 2:1–6. Figure 1A of Mannheimer is reproduced below.

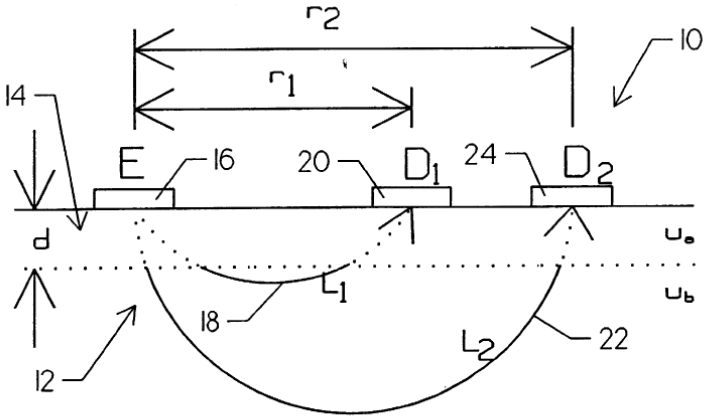

FIG. 1 A

Figure 1A of Mannheimer is a schematic diagram of a first embodiment of a pulse oximeter having one emitter 16 and two detectors 20/24. *Id.* at 2:40–42. Emitter 16 can be a single LED or multiple LEDs collocated to simulate a single point source. *Id.* at 3:13–18. Emitter 16 is separated from detector 20 by a first distance r_1, and is separated from detector 24 by a second distance r_2. *Id.* at 3:23–24. Light from emitter 16 is scattered by skin layer 14 and deeper skin layer 12, and reaches detectors 20/24 via respective paths

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

18/22. *Id.* at 3:18–20. Mannheimer calculates the blood oxygen concentration in skin layer 12 from the intensity of detected light at detectors 20/24 at two different times and two different wavelengths. *Id.* at 3:35–4:63.

In addition to the embodiment shown in Figure 1A, Mannheimer discloses a second embodiment of a pulse oximeter in Figure 1B, reproduced below.

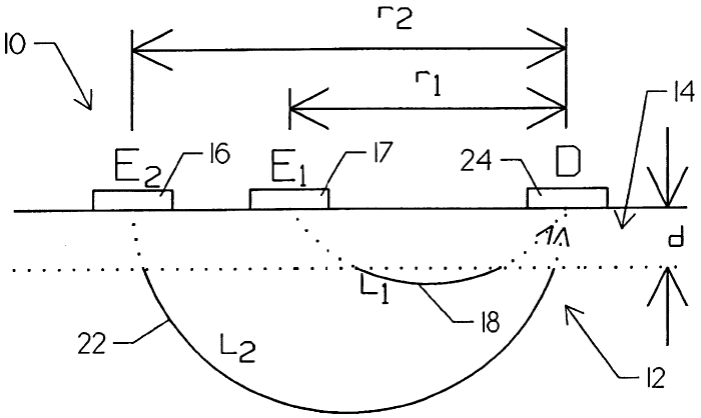

FIG. 1 B

Figure 1B of Mannheimer is a schematic diagram of a second embodiment of a pulse oximeter having two emitters 16/17 and one detector 24. *Id.* at 2:43–44, 3:37–39. As shown in Figure 1B, emitter 17 is separated from detector 24 by a first distance r_1, and emitter 16 is separated from detector 24 by a second distance r_2. Mannheimer discloses that "[t]hose of skill in the art will appreciate that the operation" of the second embodiment shown in Figure 1B "is similar to that described above" in reference to the first embodiment shown in Figure 1A. *Id.* at 5:58–62.

4. Hanna

Hanna discloses a pulse oximeter that is wearable on a user's earlobe, finger, or nasal septum to measure oxygen saturation or other properties of

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

blood. Ex. 1007, code (57), 1:33–39, 4:29–43. Hanna's oximeter includes multiple light sources, which may be LEDs, and one or more detectors, which detect the reflected light. *Id.* at 4:36–40, 4:66–5:1.

Hanna discloses that the signals from the light sources or emitters "are modulated using different code sequences." *Id.* at 4:43–51, 6:12–23. This allows the determination of "the contribution of each source" to the detected light. *Id.* at 6:19–23.

D. Assessment of the Asserted Grounds of Unpatentability

Petitioner argues that claims 16, 17, 19, and 20 are unpatentable as obvious over the combination of Lisogurski and Carlson. *See* Pet. 20–61. For reasons stated below, at this stage of the proceeding, we find Petitioner demonstrates a reasonable likelihood of showing the unpatentability of these claims over Lisogurski and Carlson. In reaching our conclusion, we take account of Petitioner's assertion, which is not opposed by Patent Owner at this stage of the proceeding, that no secondary considerations of non-obviousness outweigh the evidence of unpatentability. Pet. 71; *see generally* Prelim. Resp. (including no a challenge to that assertion at this juncture, nor any objective evidence of non-obviousness during this preliminary phase).

1. Reasons for Combining Lisogurski and Carlson

Petitioner proposes combining Lisogurski's physiological monitoring system shown in Figure 1 with Carlson's teachings regarding using lenses to receive and deliver an optical beam to tissue. *See* Pet. 23–25, 33–38. Petitioner relies on several annotated versions of Figure 1, reproduced below:

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

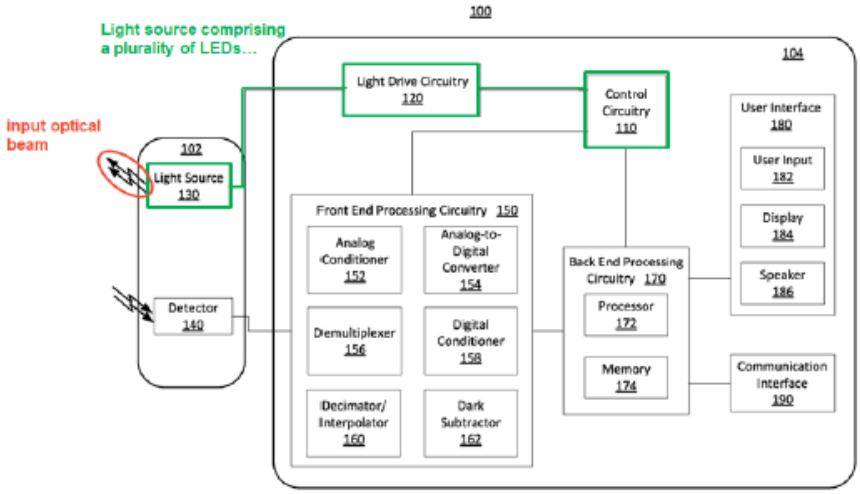

FIG. 1

Id. at 49.

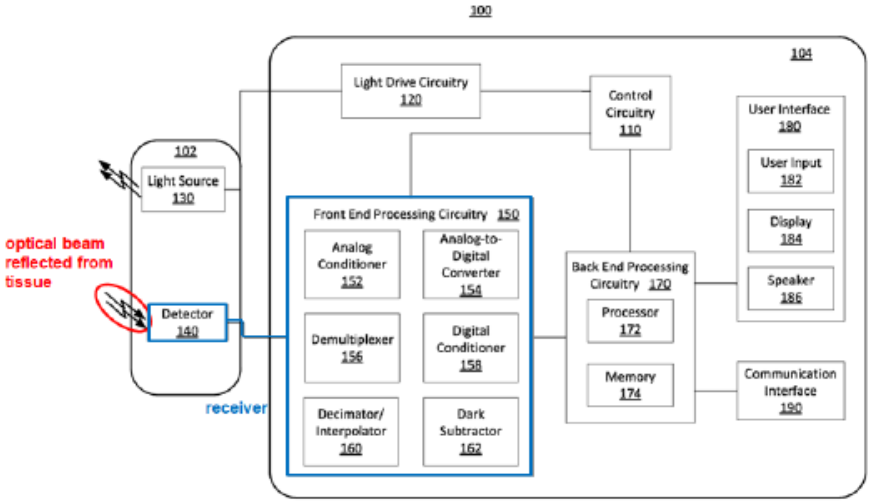

FIG. 1

Id. at 39. Modified Figures 1 are block diagrams of a physiological monitoring system including sensor 102 and monitor 104. Petitioner proposes modifying sensor 102 to include Light Source 130, Light Drive Circuitry 120, and Control Circuitry 110, which Petitioner highlights in green and annotates as together comprising a "[l]ight source comprising a plurality of LEDs." *Id*. at 49. Petitioner further proposes modifying

sensor 102 to include Detector 140 and Back-End Processing Circuitry 150, which Petitioner highlights in blue and annotates as together comprising a "receiver." *Id*. at 39.

We acknowledge that the proposed combination relocates some components of Lisogurski's monitor 104 (i.e., control circuitry 110, light drive circuitry 120, and front end processing circuitry 150) to sensor 102 as illustrated in the Petitioner-annotated versions of Figure 1 provided in the Petition. Pet. 39, 49. Petitioner argues that Lisogurski teaches or suggests these modifications by teaching "[i]n some embodiments the functionality of some of the components may be combined in a single component . . . [or] the functionality of some of the components of monitor 104 . . . may be divided over multiple components." *Id.* at 41 (quoting Ex. 1011, 16:2–9; citing Ex. 1003 ¶ 134), 49 (citing Ex. 1003 ¶¶ 157–158). Petitioner further argues that general industry trends suggest these modifications by encouraging "inclusion of additional features into wearable devices" and "favoring integration of multiple features and capabilities in wearable devices to improve their operation in mobile monitoring systems or for sports and personal fitness applications." *Id*. at 41 (citing Ex. 1003 ¶ 135), 51 (citing Ex. 1003 ¶ 161); *see id*. at 25 (citing Ex. 1003 ¶¶ 48–56).

Petitioner also argues that several industry trends would have suggested its proposed modifications to Lisogurski's sensor 102/312 and monitor 104/314. The first was the "development of wireless monitoring technologies that could be worn by the patient and used to transmit data to a remote physician or care provider" in order to "respond to the challenge of providing medical care for patients in their homes or in locations where there was not easy access to a physician." Pet. 6–7 (citing Ex. 1003 ¶¶ 52–

53; Ex. 1021, 2 ("[r]emote monitoring systems have the potential to mitigate problematic patient access issues"); Ex. 1024, 462 ("wireless technology promises benefits for medical monitoring applications by freeing patients from inconvenient and restrictive wires" allowing them to "remain in their homes while still under medical supervision"); Ex. 1027, 15–31 (disclosing growth in the remote patient monitoring market "exceeding expectations" and not being negatively impacted by the 2009 financial crisis).

The second industry trend was "bring[ing] heart rate sensing devices based on pulsoximetry to the consumer market for personal fitness tracking and other uses." Pet. 7 (citing Ex. 1003 ¶¶ 49–50; Ex. 1005 ¶ 3 ("[t]here is a growing market demand for personal health . . . monitors"); Ex. 1009 ¶ 4 ("[p]ulsoximetry measuring devices are also used in sports for control and survey of athletes"); Ex. 1020, 3 ("[a] multitude of commercial health devices and sensors, such as oximeters and heart rate monitors, formerly reserved for professional use . . . can now be connected to smartphones"); Ex. 1027, 33, 35; Ex. 1029, 221).

The third industry trend was "tak[ing] advantage of the miniaturization of electronics and communication technology, which led to the development of smaller, wearable monitoring systems for mobile health and fitness applications." Pet. 7 (citing 1003 ¶¶ 51–52; Ex. 1021, 3 ("[r]ecent advances in sensor technology, microelectronics, telecommunication, and data analysis techniques have enabled the development of wearable systems for patients' remote monitoring"); Ex. 1022, 1).

The fourth industry trend was the medical industry's use of "apps and smartphones to not only deliver care to patients but to give individual access

to health data for fitness or health issues." Pet. 7–8 (citing Ex. 1003 ¶¶ 51–52; Ex. 1021, 4 (transmitting "data gathered using sensor networks . . . to a remote site such as a hospital server" via "an information gateway such as a mobile phone or personal computer"); Ex. 1023, 5–6 (disclosing the biggest drivers for medical usage of tablets are "[p]atient monitoring and data collection," "[d]ashboard and [r]eports, "[a]ppointment scheduling," and "[p]rescriptions, authorizations, refills, patient-drug interaction and dosage management"); Ex. 1027 9, 10, 40–49). Petitioner argues these industry trends "provided a strong motivation to skilled persons to integrate medical optical sensing techniques into miniaturized wearable consumer devices that communicate wirelessly with smart devices and remote services." Pet. 8 (citing Ex. 1003 ¶¶ 49–50).

In addition, Petitioner contends, the teachings of Lisogurski and Carlson are combinable because both references "concern analogous miniaturized wireless puloximetry devices having the same applications (*e.g*., mobile monitoring of pulse and other physiological characteristics of a person)." *Id.* at 23 (citing Ex. 1003 ¶ 86). Specifically, Petitioner argues Lisogurski teaches a pulse oximetry system that includes a wearable sensor (namely, "one worn on a wrist") that "increas[es] the signal-to-noise of measured signals while minimizing power consumption." *Id.* (citing Ex. 1011, 4:15–20, 9:46–52, 17:51–58). Petitioner argues that Carlson teaches improving wearable pulse oximetry devices "by improving both signal measurement and energy consumption." *Id.* at 24 (citing Ex. 1009 ¶¶ 2, 4, 10, 48, 52; Ex. 1003 ¶ 85). Therefore, Petitioner argues, a person skilled in the art would have had reason to combine the teachings of Lisogurski and Carlson "as part of the ordinary design process he or she follows to improve

the operation of a device" because both references teach "techniques for achieving the same objectives." *Id.* at 24 (citing Ex. 1003 ¶¶ 83–86).

Patent Owner argues that Lisogurski's sensor 102/312 is not a wearable measurement device having a receiver configured to receive and process an analysis output beam because "processing circuitry 150 is part of the monitor 104, **not** part of the sensor 102 'placed' on a patient." Prelim. Resp. 21–22 (emphasis supplied by Patent Owner). Patent Owner argues that because Lisogurski teaches sensor 102/312 is a medical device, a person skilled in the art would have had no reason "to add sensitive circuitry to the sensor of such a medical device used in a medical setting." *Id.* at 23. To the contrary, Patent Owner argues, a person skilled in the art "would have wanted the components of Lisogurski's system, especially the sensor unit, to be simple and inexpensive so they could be easily and inexpensively sanitized or disposed of between patients." *Id*. Patent Owner similarly argues that Lisogurski's monitor 104/314 is not a wearable or personal measurement device because monitor 104/314, as modified by Petitioner, "is not disclosed in Lisogurski." *Id*. Patent Owner argues Petitioner's proposed modification of monitor 104/314 relies on hindsight "to artificially deselect components of a monitor 104 and assert they are part of a '*measurement device [that] is adapted to be placed on a wrist or an ear of a user*.'" *Id.* (emphasis supplied by Patent Owner).

At this juncture, we find that Petitioner shows sufficiently how and why a person of ordinary skill in the art would have modified Lisogurski's sensor 102/312 and monitor 104/314 in view of the teachings of Lisogurski, Carlson, and trends in the industry. First, Lisogurski expressly suggests the proposed modifications by teaching that some components of monitor

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

104/314 can be divided among multiple components. *See* Ex. 1011, 16:7–9. Moreover, based on the information presented at this stage of the proceeding, we find that industry trends, including wirelessly connecting wearable sensors to a network to remotely monitor patients, would have led an ordinarily skilled artisan to the proposed combination. *See* Ex. 1005 ¶ 3; Ex. 1009 ¶ 4; Ex. 1020, 3; Ex. 1021, 2–4; Ex. 1022, 1; Ex. 1024, 462, Ex. 1027, 9, 10, 15, 33, 35, 40–49; Ex. 1029, 221; *see also KSR Int'l Co. v. Teleflex Inc*., 550 U.S. 398, 418 (2007) ("When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it. . . . If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.").

2. Claim 16

Petitioner alleges that the subject matter of claim 16 would have been obvious at the time of the invention over the combined disclosures of Lisogurski and Carlson. Pet. 26–53 (including citations to evidence therein). At this stage of the proceeding, Patent Owner does not contest many factual assertions advanced in the Petition. *Compare id*., *with* Prelim. Resp. 18–26. We find, based on the information presented, that Petitioner directs us to evidence sufficient to show a reasonable likelihood that it would prevail at trial on at least claim 16. *Ibid*. We key our further analysis, below, to addressing specific counter-arguments raised by Patent Owner. We emphasize that our findings are preliminary. Any final decision entered in this case shall be based on the full trial record.

The preamble of claim 16 recites a wearable device "for measuring one or more physiological parameters." Ex. 1001, 29:35,–37. As Petitioner points out, "Lisogurski teaches a sensor that may be worn on various

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

portions of a person's body," for example, a "fingertip," an "earlobe, or a "wrist." Pet. 27 (quoting Ex. 1011, 4:6–20). Patent Owner's counterview, "that Lisogurski teaches a sensor" placed on a patient but "not a measurement device that is worn" by a patient, is unpersuasive for reasons discussed above in our analysis of the reasons Petitioner provides in support of its proposed modifications of Lisogurski's wearable sensor 102 in the teachings of Lisogurski and Carlson and the declaration of Dr. Anthony and publications relating to general trends in the industry. Prelim. Resp. 18–19. Further, Petitioner advances information that Lisogurski's device is designed to be used with a monitor, which an ordinarily skilled artisan "would have immediately envisioned" to include "both a tablet computer" or "a smartphone." Pet. 27–28 (citing Ex. 1011, 4:6–20, 15:19-23, 15:49–56, Fig. 1; Ex. 1003 ¶¶ 91, 94). On this record, Petitioner shows sufficiently that Lisogurski teaches, or (at minimum) suggests, a wearable measurement device (that is, sensor 102/312). Accordingly, on this record, we need not reach whether the preamble is limiting. *See* Pet. 26–27 (Petitioner, arguing the preamble is not limiting, but even if it is, "Lisogurski teaches it"). Regarding Patent Owner's specific argument that Lisogurski's sensor 102 is not a "wearable device" that includes a receiver having the functionality of the "receiver" recited in claim 16, for reasons explained above, we are satisfied that Petitioner shows sufficiently how and why an ordinarily skilled artisan would have been led to move back end processing circuitry 150 from Lisogurski's monitor 104 (Ex. 1011, Fig.1) to sensor 102/312, resulting in a modified sensor 102/312 having a receiver that meets the "receiver" limitations of claim 16. Patent Owner's argument that Lisogurski's unmodified device does not expressly locate the receiver in the sensor does

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

not take account adequately of the proposed modification advanced in the Petition. Prelim. Resp. 21–24. Further, we are mindful, at this stage of the proceeding, that Petitioner's arguments regarding the obviousness of undertaking the proposed modification is supported not only by disclosure within Lisogurski, Carlson, and publications relating to industry trends, but also by declaration testimony of Dr. Anthony.

In that regard, Patent Owner's position, at this juncture, that an ordinarily skilled artisan would not have been led by those references to "an imagined device . . . not disclosed [expressly] in Lisogurski" is unsupported by objective evidence. Prelim. Resp. 23. Further, because Petitioner's reasoning for modifying Lisogurski's sensor 102 and monitor 104 depend only on the teachings of Lisogurski, Carlson, and publications relating to industry trends, and not on the teachings of the'286 patent, we find unpersuasive Patent Owner's further argument that the proposed combination relies on impermissible hindsight. *Id*. at 24; *see In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971).

For the same reasons, we find unpersuasive Patent Owner's further argument that Lisogurski's sensor 102 is not a "wearable device" that includes a light source having the functionality of the "light source" recited in claim 16. Specifically, we find unpersuasive Patent Owner's argument that Petitioner does not identify prior art disclosures that would have prompted an ordinarily skilled artisan to include, in sensor 102, a light source comprising a plurality of LEDs "configured to further improve the signal-to-noise ratio of the optical beam reflected from the tissue by increasing the light intensity relative to the initial light intensity form at least one of the LEDs." *Id*. at 24–25 (bridging sentence). Here again, Patent

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Owner's position rests on argument that Petitioner improperly identifies "processing control circuitry 110 and light drive circuitry 120" as components that would have been moved to reside within Lisogurski's sensor 102. *Id*. at 24–26. Patent Owner observes that, in the unmodified device of Lisogurski, those components are part of monitor 104. *Id*. But that observation does not effectively refute Petitioner's argument that the prior art, including industry trends discussed in the Petition, would have provided a suggestion of an obvious modification to relocate components as proposed by Petitioner. *See generally* Pet. 23–53; *see also id*. at 1, 6–11, 25, 29, 41, 51 (for discussion of industry trends). Nor does it fairly address whether claim 16 requires the light source (i.e., LEDs) within the recited wearable device to include the control circuitry that would allow the light source to be "configured to further improve the signal-to-noise ratio . . . by increasing the light intensity relative to the initial light intensity from at least one of the LEDs." Ex. 1001, 30:15–18.[3]

[3] We note that Petitioner argues that claim 16 does not necessarily require the light source to include such control circuitry, but that to the extent it does, that configuration would have been obvious in view of the teachings in Lisogurski and the industry trends discussed above. *See* Pet. 47–51. Although we do not construe the claims to require the light source to include the circuitry that allows it to be configured to increase signal-to-noise ratio, Petitioner has sufficiently demonstrated that it would have been obvious to move the light drive circuitry from monitor 104/314 to wireless sensor 102/312 for the reasons discussed above.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Petitioner explains sufficiently how and why an ordinarily skilled artisan would have been led to modify Lisogurski's sensor 102/312 in a manner that results in a device as proposed. *See* Pet. 30–32 (citing Ex. 1011, 4:42–45, 7:38–8:3, 10:48–52, 10:58–63, 17:37–45, 19:25–31, Figs. 1, 3; Ex. 1003 ¶¶ 98–103). Sensor 102/312 can contain multiple LEDs that emit and direct light toward a subject's tissue, including an LED that emits red light, and an LED that emits infrared light having a wavelength between 800 and 1000 nm. Ex. 1011, 9:46–52, 5:55–6:6, 10:48–52, 10:56–63. Petitioner sufficiently demonstrates, at this stage of the proceeding, how Lisogurski's LED-based light source 130/316 meets the wearable "light source" limitation of claim 16. *See* Pet. 47–50 (citing Ex. 1011, 1:19–21, 1:44–46, 1:67–2:3, 5:55–6:6, 9:46–52, 9:57–60, 10:48–49, 11:38–41, 11:50–54, 14:49–55, 17:55–59, 18:23–25, 25:52–55; Ex. 1003 ¶¶ 147–149, 156–159). Lisogurski teaches "the intensity of light source 130 and the timing of when light source 130 is turned on and off" is controlled by a light drive signal that "increase[s] the brightness of the light sources in response to . . . noise to improve the signal-to-noise ratio." Ex. 1011, 9:50–52, 11:50–54. On this record, we are not persuaded by Patent Owner's argument that Petitioner's obviousness ground must fail because it depends on "an imagined device [that] is not disclosed in Lisogurski," or that "Petitioner and its expert are using hindsight to artificially deselect components of" Lisogurski's "monitor 104" to assert "they are part of the 'light source.'" Prelim. Resp. 26 (emphasis omitted). We addressed Patent Owner's former argument in our above analysis regarding the reasons Petitioner provides for the proposed modifications of Lisogurski, and find, at this stage of the proceeding, that Patent Owner's latter argument is refuted by express disclosure within the

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

four corners of Lisogurski: "In some embodiments the functionality of some of the components may be combined in a single component" or, in particular, "the functionality of some of the components of monitor 104 . . . may be divided over multiple components." Ex. 1011, 16:2–9; *quoted at* Pet. 50.

On this record, Petitioner also supplies reasoning with rational underpinning to combine the teachings of Lisogurski and Carlson. For example, Petitioner advances argument, supported by citations to the prior art and declaration testimony of Dr. Anthony, explaining with sufficient clarity why an ordinarily skilled artisan would have modified Lisogurski's device to include the plurality of lenses disclosed by Carlson. Pet. 35–38 (citing Ex. 1003 ¶ 126) (explaining why Lisogurski and Carlson would have made obvious a modified device having "one or more lenses configured to receive and to deliver a portion of the optical beam to tissue" as specified in claim 16). Patent Owner, at this stage, does not address, much less refute, those contentions. Prelim. Resp. 18–26 (Patent Owner, referring to Carlson in subheadings, but nowhere discussing that reference in the context of the first ground asserted in the Petition). Accordingly, we find Petitioner is reasonably likely to show at trial that claim 16 is unpatentable as obvious over the combined disclosures of Lisogurski and Carlson.

3. Claims 17, 19, and 20

Petitioner directs us to evidence sufficient to demonstrate a reasonable likelihood of prevailing at trial in showing that the subject matter of claims 17, 19, and 20 (which depend from claim 16) are unpatentable over Lisogurski and Carlson. Pet. 54–61 (and citations to evidence therein). Patent Owner raises no new arguments with respect to the limitations added

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

by those dependent challenged claims. Prelim. Resp. 18–26. Based on the information advanced by Petitioner (*ibid*.), we find that Petitioner is reasonably likely to show at trial that claims 17, 19, and 20 are unpatentable in view of the combined disclosures of Lisogurski and Carlson.

4. The Other Asserted Grounds Based on Obviousness

Petitioner asserts two additional obviousness grounds: (1) against claims 16, 17, 19, and 20 over Lisogurski, Carlson, and Hanna (Pet. 61–65); and (2) against claim 20 over Lisogurski, Carlson, and Mannheimer, with or without Hanna (*id*. at 65–70). With respect to the first additional ground, Petitioner shows sufficiently that Hanna "describes devices that can be worn, for example, on an earlobe or finger." *Id*. at 64 (citing Ex. 1007, 1:39). Further, Petitioner shows sufficiently that "Hanna teaches modulating light to include information." *Id*. at 62 (citing Ex. 1007, 6:13–8:24; Ex. 1003 ¶¶ 183–184). Petitioner shows sufficiently, moreover, that a person of ordinary skill in the art would have combined the disclosures of Lisogurski, Carlson, and Hanna. Pet. 62–65 (and evidence cited therein). Petitioner states, "[t]o the extent Lisogurski and Carlson do not teach modulating an LED to create a beam that contains information" as required by claim 16[b], "configuring Lisogurski to do so would have been obvious based on Hanna." *Id*. at 65 (citing Ex. 1003 ¶ 195). Patent Owner raises no arguments with respect to this ground, other than those presented in the context of the ground (discussed above) based on Lisogurski and Carlson alone. Prelim. Resp. 26. On this record, we determine that Petitioner is reasonably likely to prevail in showing at trial that the subject matter of claims 16, 17, 19, and 20 would have been obvious over the combined disclosures of Lisogurski, Carlson, and Hanna.

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Similarly, Petitioner comes forward with evidence sufficient to show that claim 20 is unpatentable as obvious over the combined disclosures of Lisogurski, Carlson, and Mannheimer, with or without the additional disclosure of Hanna. Pet. 65–71 (and evidence cited therein). For example, Petitioner explains why the asserted prior art references would have been combined and, further, why their combined disclosures would have led an ordinarily skilled artisan "to spatially arrange the emitters and detector of the Lisogurski sensor in the manner described by Mannheimer." *Id*. at 69; Ex. 1011, 17:39–45; Ex. 1003 ¶¶ 206–207; *see* Ex. 1008, 3:25–35, 5:1–5 (Manheimmer's disclosure regarding benefits of its configuration). Here again, Patent Owner raises no arguments with respect to this ground, other than those presented in the context of the ground (discussed above) based on Lisogurski and Carlson alone. Prelim. Resp. 27. On this record, we determine that Petitioner is reasonably likely to prevail in showing at trial that the subject matter of claim 20 would have been obvious over the combined disclosures of Lisogurski, Carlson, and Mannheimer, with or without the additional disclosure of Hanna.

E. Discretionary Denial

The Director has discretion to institute *inter partes* review, and has delegated that discretion to the Board. *See* 35 U.S.C. § 314(a); *see also* 37 C.F.R. §42.4(a). When considering whether to institute *inter partes* review under § 314(a), the Board's discretion is informed by 35 U.S.C. § 316(b), which relates to the effect on the economy, the integrity of the patent system, the efficient administration of the Office, and the ability of the Board to timely complete proceedings. *See* Trial Practice Guide Update 23 (July 2019), available at https://www.uspto.gov/sites/default/files/documents/trial-

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

practice-guide-update3.pdf. Thus, the Board considers and weighs several factors in determining whether to exercise its discretion to deny institution, including whether a petitioner has filed two or more petitions against the same patent at or about the same time, and whether the petitioner has challenged the same patent in a related district court proceeding and the state of that proceeding. *See id.* at 25 n.2, 26*; see also NHK Spring Co. v. Intri-Plex Techs., Inc*., IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (precedential) ("*NHK*").

Patent Owner argues we should deny institution under § 314(a) because the District Court in the related district court proceeding "will resolve [Petitioner's] validity arguments before any IPR trial concludes," and because "the Petition contains significant overlap with Petitioner's parallel petition in IPR2019-00911." Prelim. Resp. 3–4. We address each of these arguments below.

1. Related District Court Proceeding

Patent Owner filed a complaint alleging infringement of the '286 patent in the District Court for the Eastern District of Texas,[4] and served Petitioner with the complaint on April 10, 2018. Ex. 1004, 2. According to Patent Owner, the District Court set and confirmed a trial date of February 18, 2020. Prelim. Resp. 5 (citing Ex. 2002, 2; Ex. 2010).

[4] As explained above (*supra* p. 2 and n.1), the parties assert that the '286 patent is the subject of two district court actions. Patent Owner's arguments, including citations to evidence, make plain that its position regarding the applicability of the Board's decision in *NHK* rests on the pendency of *Omni MedSci Inc. v. Apple Inc.,* No. 2-18-cv-00134-RWD (E.D. Tex.). *See, e.g.*, Prelim. Resp. 4 (citing Ex. 1004, proof of service in that action).

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

This Petition was filed on April 10, 2019, within the one-year time period permitted by statute. *See* 35 U.S.C. § 315(b); Paper 5, 1 (notice of filing date accorded to the Petition). If the Petition is granted by the statutory deadline of November 8, 2019, a Final Written Decision will be due by November 8, 2020. *See id*. §§ 314(b), 316(a)(11). According to Patent Owner, the District Court is set to decide the patentability of "the **same claims** challenged in this proceeding" based on "obviousness over at least eight different combinations of references," from among a group of asserted prior art references that include "the **same references** asserted in this proceeding." Prelim. Resp. 4–5 (citations omitted). In Patent Owner's view, therefore, the District Court likely will resolve the patentability of the challenged claims "**nine months**" before the Board issues a final decision in this administrative review. *Id*. at 5. Patent Owner argues we should exercise our discretion to deny the Petition because the Board "has found 'that the advanced state of [a]district court proceeding is an additional factor that weights in favor of denying the Petition under § 314(a),'" and "the facts here are similar to those in *NHK*." Prelim. Resp. 4 (quoting *NHK*, Paper 8 at 20).

Given these facts, we authorized additional briefing (namely, the Reply and Sur-Reply identified above (*supra* p. 1)) limited to discussing the facts and factors the Board should consider when deciding whether to exercise our discretion to deny institution under § 314(a). Paper 9.

In the Reply, Petitioner argues that Patent Owner's request to deny institution under § 314(a) "is now moot because there will not be a trial in the Eastern District of Texas in February 2020." Reply 1. Patent Owner does not dispute that the district court case has been transferred to the

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Northern District of California, and stayed pending that transfer. Sur-Reply 1. However, Patent Owner argues that transfer was completed on October 2, 2019 and that "the stay was lifted upon completion of the transfer." *Id.* at 1 (citing Ex. 1057, 1; Ex. 2113, 33). Nonetheless, Patent Owner admits that, although "[t]he parties have filed opening summary judgment briefs," the assigned Judge in the Northern District of California "has not yet set a schedule for the remaining briefs or a trial date." *Id.* at 2. Still, Patent Owner argues that, because the assigned Judge scheduled trial 3.5 months "after the deadline for summary judgement response briefs" in a different patent case, "it is likely that trial will be completed in the second quarter of 2020 and certainly no later than June 2020." *Id.* at 2–3.

Upon consideration of the evidence and arguments presented, we are not persuaded that we should exercise our discretion to deny institution under § 314(a). The related district court proceeding has been transferred from the Eastern District of Texas to the Northern District of California, mooting the February 2020 trial date in the Eastern District of Texas. Ex. 1057, 1. Petitioner has not filed any dispositive motions challenging the validity of the '286 patent on any prior art grounds. Reply 7; Sur-Reply 7; Ex. 1057, 1–3. Therefore, the validity of the claims challenged in the Petition over the art raised in the Petition will not be determined in the related district court proceeding until a jury makes that determination after a trial on the merits in the Northern District of California.

To date, as Patent Owner admits, no scheduling order has issued for the Northern District of California proceeding, and no trial date has been set. Sur-Reply 2. Although Patent Owner asserts that the Northern District of California proceeding is *likely* to go to trial "in the second quarter of 2020

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

and certainly no later than June 2020," Patent Owner's assertion, given the facts described above, is speculation. Sur-Reply 3. We decline to engage in such speculation to determine whether to proceed with an *inter partes* review in this Proceeding.

Accordingly, for the reasons discussed above, we decline to exercise our discretion to deny institution under 35 U.S.C. § 314(a) due to the pending litigation in the Northern District of California.

2. Related Inter Partes Review Proceeding

Patent Owner argues we should exercise our discretion to deny institution of this Proceeding because "Petitioner filed parallel and substantially overlapping IPR petitions against the '286 patent but has not identified any material differences between them." Prelim. Resp. 6 (citing *Comcast Cable Commc'ns, LLC v. Rovi Guides, Inc*., IPR2019-00232, Paper 14 at 12–13 (PTAB May 20, 2019); Trial Practice Guide Update (July 2019), 84 Fed. Reg. 33925.

Specifically, Patent Owner argues that in IPR2019-00911 ("IPR911"), Petitioner "challenge[s] the same claims as in this Petition, but merely replace[s] Lisogurski" and "Carlson" with a combination of two other references. Prelim. Resp. 7. In Patent Owner's view, across the instant Petition and that filed in IPR911, Petitioner asserts "four different grounds challenging claims 16, 17, and 19, and eight different grounds challenging claim 20, without identifying any material differences in the references." *Id*. at 9. Patent Owner argues, therefore, "Petitioner seeks review of redundant arguments, contrary to the purpose of IPR and the directive to ensure efficient use of the Board's resources." *Id.* (citing 35 U.S.C. § 314(a)).

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

Although not expressly stated, the July 19 Trial Practice Guide Update suggests that the reason a petitioner should rank parallel petitions challenging the same patent and identify the differences between them is to facilitate the Board's consideration of "why the Board should exercise its discretion to institute additional petitions *if it identifies one petition that satisfies petitioner's burden* under 35 U.S.C. § 314(a)." Trial Practice Guide Update, 27 (emphasis added); *see Comcast*, Paper 14 at 8 ("[I]n light of the specific facts of this case, we exercise our discretion to deny institution of the present Petition under § 314(a) in light of IPR2019-00231, *which we are instituting*.") (emphasis added).

Significantly, concurrently with this decision, we enter a decision denying review in IPR911. In other words, only this Petition will proceed on the merits, and Patent Owner's burden will be limited to defending the patentability of the claims challenged on the grounds raised solely in the instant Petition. These facts alleviate the concerns, also expressed in the July 2019 Trial Practice Guide Update, of "plac[ing] a substantial and unnecessary burden on the Board and the patent owner" and of raising "fairness, timing, and efficiency concerns." Trial Practice Guide Update 26.

Accordingly, for the reasons discussed above, we decline to exercise our discretion to deny this Petition under 35 U.S.C. § 314(a) due to Petitioner's filing of a concurrent petition challenging the same claims of the '286 patent on different grounds in IPR2019-00911.

III. CONCLUSION

Based on the information presented at this stage of the proceeding, we find Petitioner demonstrates a reasonable likelihood of showing claims 16,

Omni MedSci Ex. 2037
Samsung Electronics Co. Ltd., et al., v. Omni MedSci - IPR2025-01254

17, 19, and 20 of the ’286 patent are unpatentable. Accordingly, we institute *inter partes* review of all claims on all grounds raised in the Petition.

IV. ORDER

It is ORDERED that, pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted on all challenged claims on all grounds stated in the Petition; and

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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