Filed: March 28, 2024

Filed on behalf of:
Patent Owner Masimo Corporation
By: Brian C. Claassen (Reg. No. 63,051)
Daniel Hughes (Reg. No. 76,592)
Irfan A. Lateef (Reg. No. 51,922)

KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, Fourteenth Floor
Irvine, CA 92614
Tel.: (949) 760-0404
Fax: (949) 760-9502
E-mail: AppleIPR223@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner,

v.

MASIMO CORPORATION,

Patent Owner.

Case IPR2024-00290
U.S. Patent 8,190,223

PATENT OWNER PRELIMINARY RESPONSE

TABLE OF CONTENTS

Page No.

I. INTRODUCTION 1

II. BACKGROUND 3

A. Overview Of The Technology 3

B. The '223 Patent 4

C. Introduction to Independent Claims 5

III. LEVEL OF ORDINARY SKILL IN THE ART 6

IV. OVERVIEW OF APPLE'S REFERENCES 7

A. Naghavi (EX1005) 8

B. Hochstedler (EX1004) 10

C. Burnes (EX1006) 11

D. Hayashi (EX1007) 13

E. Mortz (EX1009) 13

V. LEGAL STANDARD 13

VI. CLAIM CONSTRUCTION 15

VII. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. §§ 314(a) AND 325(d) 16

A. The *Fintiv* Factors Favor Denial Under § 314(a) 16

1. Factor 1: No Stay Has Been Sought and None Is Likely 17

TABLE OF CONTENTS
(*cont'd*)

Page No.

2. Factor 2: Under the District Court's Accelerated Schedule, Trial Is Expected Before The Projected Statutory Deadline 18

3. Factor 3: The Parties' Significant and Continuing Investment in the Litigation Weighs Against Institution 20

4. Factor 4: The Validity Issues in the Petition Overlap with the Delaware Litigation 23

5. Factor 5: The Delaware Litigation Involves The Same Parties 24

6. Factor 6: Other Considerations Favor Denying Institution 24

VIII. NO GROUND ESTABLISHES OBVIOUSNESS 25

A. Ground 1A Does Not Establish Obviousness 25

1. Apple Fails To Show That The References Or Their Combination Disclose "The Display Of One Of The Measured Values Of The First Or Second Physiological Parameter Is Replaced With The Other Of The Measured Values Based On An Occurrence Of An Event, The Event Being The Measured Value Of One Of The First Or Second Physiological Parameters Approaching One Or More Threshold Values Indicative Of A Worsening State Of A Patient" (Claim 1 And Dependent Claims 2-4, 6, 11, 12) 25

a. Hochstedler Does Not Disclose The Replacing Limitation 26

TABLE OF CONTENTS
(*cont'd*)

Page No.

b. Naghavi Does Not Disclose The Replacing Limitation 31

c. Burnes Does Not Disclose The Replacing Limitation 33

d. The Combination Of Naghavi, Hochstedler, and Burnes Does Not Disclose The Replacing Limitation 35

2. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area Is Configured To Default To Displaying One Of The Measured Values Of The First Or Second Physiological Parameters" (Dependent Claim 4) 36

3. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area Changes From Displaying One Of The Measured Values Of The First Or Second Physiological Parameter To Displaying The Other Of The Measured Values Based On An Occurrence Of An Event, The Event Being The Measured Value Of One Of The First Or Second Physiological Parameters Approaching One Or More Threshold Values Indicative Of A Worsening State Of A Patient" (Claim 13) 38

TABLE OF CONTENTS
(*cont'd*)

Page No.

4. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area, The Display Of One Of The Measured Values Of The First Or Second Physiological Parameter Is Replaced With The Other Of The Measured Values Of The First Or Second Physiological Parameters Based On An Occurrence Of An Event, The Event Being One Of The Measured Values Of The First Or Second Physiological Parameters Alarming" (Claim 15 And Dependent Claim 16 And 17) 39

5. Apple Fails To Show That The References Or Their Combination Disclose "In The Common Display Area, The Display Of One Of The Measured Values Of The First Or Second Physiological Parameters Is Replaced With The Other Of The Measured Values Of The First Or Second Physiological Parameters Automatically Based On Which Is A More Critical One Of The Measured Values Of The First Or Second Physiological Parameters" (Claim 18 And Dependent Claim 19 and 20) 40

6. Apple Fails To Show That The References Or Their Combination Disclose "Replacing The Display Of The Measured Value Of The First Physiological Parameter With A Display Of A Measured Value Of A Second Physiological Parameter In The Display Location When A Change In The Measurement Of The Second Physiological Parameter Indicates A Worsening State Of The Patient" (Claim 21 And Dependent Claim 22) 41

TABLE OF CONTENTS
(*cont'd*)

Page No.

7. Apple Fails To Show That Hochstedler Discloses "Measured Value" As Construed By Apple In The Delaware Litigation (Claims 1, 13, 15, 18, 21 And Dependent Claims 4, 6, 11, 12, 14, 16, 17, 20) 42

8. A POSITA Would Not Be Motivated to Combine Naghavi, Hochstedler, and Burnes 43

a. Apple Relies On Improper Hindsight Bias To Combine References To Create Features The References Do Not Disclose 44

b. A POSITA Would Not Implement Naghavi's Icons And Health Objects Into The Display Layouts Of Hochstedler 45

c. A POSITA Would Not Have Been Motivated to Switch The Layout From One Parameter To A Second Parameter When The Second Parameter Is Out Of Range Or Approaches Out Of Range 47

B. Ground 1B Does Not Establish Obviousness 51

1. Dependent Claim 19 51

2. Apple Fails To Show That The References Or Their Combination Disclose "The Display Of The Measured Value Of The First Blood Parameter Is Replaced By The Measured Value Of The Second Blood Parameter When The Second Blood Parameter Passes An Alarm Threshold" (Claim 27 And Dependent Claims 32, 34, 36, 37, 42, 43, 44) 52

TABLE OF CONTENTS
(*cont'd*)

Page No.

3. Apple Fails To Show That The References Or Their Combination Disclose "The Display Also Changes From Displaying The Measured Value Of The First Blood Parameter To Displaying The Measured Value Of The Second Blood Parameter When The Second Blood Parameter Passes An Alarm Threshold" (Claim 28) 53

4. Apple Fails To Show That Hochstedler Discloses "Measured Value" As Construed By Apple In The Delaware Litigation (Claims 27, 28 And Dependent Claims 19, 32, 34, 36, 37, 42, 43) 54

5. A POSITA Would Not Be Motivated To Combine Naghavi, Hochstedler, Burnes, and Hayashi 54

C. Ground 1C Does Not Establish Obviousness 55

IX. RESERVATION OF RIGHTS 55

X. CONCLUSION 56

TABLE OF AUTHORITIES

Page No(s).

Apple Inc. v. Fintiv Inc.,
IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) ..... *passim*

Apple Inc. v. Fintiv, Inc.,
IPR2020-00019, Paper 15 (PTAB May 13, 2020) 21

CommScope Techs. LLC v. Dali Wireless, Inc.,
IPR2022-01242, Paper 23 (Feb. 27, 2023) 24

Graham v. John Deere Co.,
383 U.S. 1 (1966) 14

Harmonic Inc. v. Avid Tech., Inc.,
815 F.3d 1356 (Fed. Cir. 2016) 13, 14

Intelligent Bio-Sys., *Inc. v. Illumina Cambridge, Ltd.*,
821 F.3d 1359 (Fed. Cir. 2016) 15

In re Kotzab,
217 F.3d 1365 (Fed. Cir. 2000) 14

KSR Int'l Co. v. Teleflex Inc.,
550 U.S. 398 (2007) 14, 15, 50

In re Magnum Oil Tools Int'l, Ltd.,
829 F.3d 1364 (Fed. Cir. 2016) 15

Mallinckrodt, Inc. v. Masimo Corp.,
2005 WL 2139867 (Fed. Cir. 2005) 1

Masimo Corp. v. Philips Elecs. N. Amer. Corp.,
2015 WL 2379485 (D. Del. 2015) 1

Mylan Labs. Ltd. v. Janssen Pharmaceutica NV,
IPR2020-00440, Paper 17 (PTAB Sept. 16, 2020) 17

TABLE OF AUTHORITIES
(*cont'd*)

Page No(s).

Phillips v. AWH Corp.,
415 F.3d 1303 (Fed. Cir. 2005) (*en banc*) 15

Raytheon Techs. Corp. v. Gen. Elec. Co.,
993 F.3d 1374 (Fed. Cir. 2021) 14

SAS Inst., Inc. v. Iancu,
138 S. Ct. 1348 (2018).....13

Star Sci., Inc. v. R.J. Reynolds Tobacco Co.,
655 F.3d 1364 (Fed. Cir. 2011) 15

Supercell Oy v. GREE, Inc.,
IPR2020-01619, Paper 15 (PTAB Mar. 24, 2021).....18

Supercell OY v. Gree, Inc.,
PGR2020-00039, Paper 14 (PTAB Sept. 14, 2020).....24

US Venture, Inc. v. Sunoco Partners Marketing & Terminals LP,
IPR2020-00728, Paper 10 (PTAB Oct. 1, 2020).....18, 19

Vector Flow, Inc. v. HID Global Corp.,
IPR2023-00353, Paper 8 (PTAB July 17, 2023).....19

OTHER AUTHORITIES

19 U.S.C. § 1337.....17

28 U.S.C. § 1659.....17

35 U.S.C. § 103.....14

35 U.S.C. § 313.....1

35 U.S.C. § 314.....13, 14, 16

TABLE OF AUTHORITIES
(*cont'd*)

Page No(s).

37 C.F.R. § 42.100 .....15, 16

37 C.F.R. § 42.107 1

EXHIBIT LIST

Exhibit No.	Description
2001	Curriculum Vitae of R. James Duckworth, Ph.D.
2002	Declaration of R. James Duckworth, Ph.D.
2003	Commission Opinion (Public), *Certain Light-Based Physiological Measurement Devices and Components Thereof, Inv.* No. 337-TA-1276, EDIS No. 808521 (ITC Oct. 26, 2023)
2004	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01271, Paper 15 (PTAB Jan. 24, 2023)
2005	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01272, Paper 16 (PTAB Jan. 24, 2023)
2006	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01273, Paper 15 (PTAB Jan. 24, 2023)
2007	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01274, Paper 15 (PTAB Jan. 24, 2023)
2008	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01275, Paper 15 (PTAB Jan. 30, 2023)
2009	Decision Denying Institution of *Inter Partes* Review, *Apple Inc. v. Masimo Corp.*, IPR2022-01276, Paper 15 (PTAB Jan. 30, 2023)
2010	Plaintiff Apple Inc.'s Opposition to Defendants' Motion for Stay Pending *Inter Partes* Review (Public), *Apple Inc. v. Masimo Corp.*, No. 22-1378-MN-JLH (D. Del. Jan. 10, 2024), D.I. 457

Exhibit No.	Description
2011	Plaintiff Apple Inc.'s Opening Brief in Support of Its Motion for an Expedited Trial, *Apple Inc. v. Masimo Corp.*, No. 22-1377-MN-JLH (D. Del. Feb. 10, 2023), D.I. 50
2012	Transcript of May 5, 2023 Hearing in *Apple Inc. v. Masimo Corp.*, Nos. 22-1377-MN-JLH, 22-1378-MN-JLH (D. Del. May 5, 2023)
2013	Original Scheduling Order, *Apple Inc. v. Masimo Corp.*, No. 22-1377-MN-JLH (D. Del. May 25, 2023), D.I. 92
2014	Amended Scheduling Order, *Apple Inc. v. Masimo Corp.*, No. 22-1377-MN-JLH (D. Del. Sept. 21, 2023), D.I. 359
2015	Lex Machina Patent Case Timeline Statistics for the District of Delaware between December 12, 2022 and December 12, 2023
2016	Lex Machina Case Statistics for Magistrate Judge Jennifer Hall
2017	Lex Machina Case Statistics for Judge Colm Connolly, Judge Maryellen Noreika, Judge Richard Andrews, Judge Gregory Williams, and Magistrate Judge Jennifer Hall
2018	Transcript of September 14, 2023 Markman Hearing, *Apple Inc. v. Masimo Corp.*, Nos. 22-cv-1377-MN-JLH, 22-cv-1378-MN-JLH
2019	Aaron Tilley, *The Entrepreneur Who Bet His Company on a Fight With Apple*, Wall Street J., Dec. 30, 2023, https://www.wsj.com/tech/joe-kiani-entrepreneur-apple-warning-52eb09a9
2020	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1271, Paper 20 (PTAB June 20, 2023)
2021	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1272, Paper 20 (PTAB June 20, 2023)

Exhibit No.	Description
2022	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1273, Paper 19 (PTAB June 20, 2023)
2023	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1274, Paper 19 (PTAB June 20, 2023)
2024	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1275, Paper 19 (PTAB June 26, 2023)
2025	Notice of Refund, Apple Inc. v. Masimo Corp., IPR2022-1276, Paper 20 (PTAB June 26, 2023)
2026	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1292, Paper 17 (PTAB Mar. 7, 2023)
2027	Notice of Refund, *Apple Inc. v. Masimo Corp.*, IPR2022-1466, Paper 17 (PTAB Apr. 5, 2023)
2028	Correspondence from counsel for Apple to counsel for Masimo regarding Apple's prior art grounds in the Delaware Litigation, dated November 16, 2023
2029	Reserved
2030	Masimo Corp., Press Releases, 2005, http://www.masimo.com/news/2006.htm, captured Oct. 30, 2009
2031	Masimo Corp., Masimo rainbow® Pulse Co-Oximetry, https://professional.masimo.com/technology/co-oximetry/rainbow/, captured Mar. 20, 2024
2032	Joint Claim Construction Brief Regarding Masimo Asserted Patents, No. 1:22-cv-01378, D.I. 295, Aug. 31, 2023, *Apple, Inc. v. Masimo Corporation and Sound United, LLC*, (D. Del.)

Exhibit No.	Description
2033	Jim Duckworth, "Integrated First Responder Location and Physiological Monitoring," Presentation, 1st Invitational Workshop on Body Area Network Technology and Applications, Worcester Polytechnic Institute, Jun. 19-20, 2011
2034	Yitzhak Mendelson, "Wearable Wireless Pulse Oximetry for Physiological Monitoring," Presentation, PPL Workshop, Worcester Polytechnic Institute, Aug. 4 2008
2035	Y. Mendelson, J. Duckworth, et al. "A Wearable Pulse Oximeter for Remote Physiological Monitoring," Proceedings of the 28th IEEE EMBS Annual Int'l Conf., Aug. 30 - Sept. 3, 2006
2036	U.S. Patent No. 6,091,530
2037	U.S. Patent No. 6,075,755

Pursuant to 35 U.S.C. § 313, 37 C.F.R. § 42.107 and the Notice of Filing Date Accorded to Petition, dated December 28, 2023 (*see* Paper 3), Masimo Corporation ("Masimo") hereby timely submits its Preliminary Response to the Petition for *Inter Partes* Review of U.S. Patent No. 8,190,223 ("the '223 Patent") filed by Apple Inc. ("Apple" or "Petitioner").

I. INTRODUCTION

Masimo is the technology leader in the field of noninvasive physiological monitoring. In 1989, Masimo was a small startup operating in an inventor's condo. Today, Masimo is a publicly traded company employing 6,300 people worldwide with annual revenues exceeding one billion dollars. Masimo technology is used in clinical care to monitor over 200 million patients a year. This growth followed Masimo's development of a range of technologies that revolutionized the field of noninvasive physiological monitoring. Other Masimo patents have withstood extensive attacks, including in litigation through trial, *inter-partes* review, and appeal.[1]

Apple was not, historically, a company that had any involvement in physiological monitoring devices. But, around 2013, Apple decided to enter the

[1] *See*, *e.g.*, *Mallinckrodt, Inc. v. Masimo Corp.*, 2005 WL 2139867, at *3 (Fed. Cir. 2005); *Masimo Corp. v. Philips Elecs. N. Amer. Corp.*, 2015 WL 2379485, at *1 (D. Del. 2015).

field and sought out Masimo for that technology. Although claiming an interest to integrate Masimo's technology into Apple products, Apple instead began poaching employees, one after another. EX1064, 35-37.

In 2020, Masimo brought a lawsuit against Apple in the Central District of California for trade secret misappropriation and patent infringement. Since 2020, the parties have been engaged in actions in additional forums, including the District of Delaware, International Trade Commission, and this forum. In 2023, the International Trade Commission found that Apple infringes Masimo's patents and entered remedial orders excluding Apple from importing Apple Watches with pulse oximetry that infringe Masimo's patents. EX2003, 123. Since January 2024, Apple has purportedly disabled the blood oxygen feature in all the Apple Watches it imports into the United States.

The present Petition arises from a dispute between the parties in the District of Delaware. Shortly before the Commission issued its final order in the ITC, Apple sued Masimo for patent infringement in the District Court of Delaware. EX1063. Masimo countersued Apple for infringement of several patents, including the patents Masimo asserted in the ITC and the '223 Patent. EX1064. At the one-year statutory deadline, Apple filed the present Petition.

II. BACKGROUND

A. Overview Of The Technology

Masimo is a medical technology company that revolutionized non-invasive monitoring of physiological parameters, such as pulse rate, arterial oxygen saturation (SpO_2), and many others. Before Masimo, non-invasive measurements from the photoplethysmograph (PPG) were plagued by unreliability, often when the measurement was needed most, due to the person moving or having low peripheral blood flow (known as "low perfusion"). The industry had essentially given up on solving these problems, concluding they were largely unsolvable. Pulse oximeters falsely alarmed 70 to 90 percent of the time. Masimo's pioneering technology, known as Masimo Signal Extraction Technology ("Masimo SET"), solved these problems and dramatically improved the reliability of monitoring and reporting physiological signals derived from the PPG. Masimo SET reduced false alarms by 97% and improved detection of true events.

The innovation of Masimo SET also permitted Masimo to develop many other parameters from the rich data it was able to extract from the PPG using this revolutionary technology. Following its initial success with Masimo SET, Masimo invested heavily in developing additional breakthrough measurement technologies. In 2005, Masimo released its rainbow® technology, which used eight wavelengths of light to noninvasively measure parameters that were previously only available to

clinicians with invasive measurements. EX2030, 12-13. For example, today Masimo's rainbow® technology can measure total hemoglobin (SpHb), carboxyhemoglobin (SpCO), and methemoglobin (SpMet). EX2031.

B. The '223 Patent

In 2005, as Masimo was developing its revolutionary rainbow® technology, Masimo's engineers also needed to address how to display these new parameters. Masimo understood that for caregivers to properly assess a patient's condition, they would benefit from understanding multiple parameters in addition to SpO_2, PPG waveforms, or pulse rate, including the new revolutionary rainbow® parameters. EX1001, 2:50-59. However, some device displays are constrained in size, limiting what parameters can be displayed. *See, e.g.,* EX1001, Abstract, 2:42-47, 3:10-14, 4:57-60, Fig. 2. A display may not be able to display all the measured parameters at one time. *See, e.g.*, EX1001, Abstract, 3:10-14, 4:57-60. Because Masimo's technology could monitor more parameters, the inventors of the '223 Patent sought a way to show multiple parameters with limited display real estate, without sacrificing patient safety. *See* EX1001, Abstract, 2:51-3:9, 4:48-50; EX2002, ¶¶53-54.

The inventors determined that this goal could be met by using a small display, which would replace one parameter with a second parameter if the second parameter met certain conditions, such as indicating a worsening state of the patient or

"alarming" (i.e., above or below a designated range). *See* EX1001, 3:44-62, 5:16-30, 14:12-15; EX2002, ¶55. By replacing a parameter with another parameter that is near or exceeding a threshold value, a clinician or other healthcare provider could monitor a patient using a device with a small display yet be notified promptly of any important changes in the health status of the patient. *See* EX1001, 3:44-62, 5:16-30, 14:12-15; EX2002, ¶55.

C. Introduction to Independent Claims

The Petition challenges seven independent claims across its three Grounds, Claims 1, 13, 15, 18, 21, 27, and 28. Ground 1A challenges independent Claims 1, 13, 15, 18, and 21. Ground 1B challenges Claims 27 and 28.

Claim 1 is illustrative (but not representative) of features claimed in the '223 Patent. Apple has numbered the claim limitations. *See e.g.*, Pet., vi-xi. For the Board's convenience and ease of reference, Masimo has adopted Apple's numbering system. Claim 1 recites:

[1pre]	A patient monitor capable of measuring at least two physiological parameters,
[1a]	the patient monitor comprising a display capable of displaying a measured value of a first physiological parameter of body tissue of a monitored patient in a first display area or displaying a measured value of a second physiological parameter of the body tissue in a second display area where the first display area and the second display area comprise at least some common display area capable of displaying information
[1b]	wherein in the common display area, the display of one of the measured values of the first or second physiological parameter is replaced with the other of the measured values based on an occurrence of an event,

[1c]	the event being the measured value of one of the first or second physiological parameters approaching one or more threshold values indicative of a worsening state of a patient.

Similar to Claim 1, the other independent claims also require replacing ([1b], [15b], [18b], [21b], [27b]) or changing ([13b], [28c]) the display of a first measured value with a second measured value. The independent claims replace or change the display of the measured value based on certain events: one of the measured values approaching a threshold indicating a worsening state of the patient ([1c], [13c], [21b]); one of the measured values alarming ([15c]); one of the measured values is more critical than another measured value ([18b]); or one of the measured values passes an alarm threshold ([27c], [28c]).

III. LEVEL OF ORDINARY SKILL IN THE ART

A POSITA at the time of the '223 Patent would be a person with a Bachelor of Science degree in an academic discipline emphasizing the design of software or user interfaces, in combination with training or at least one to two years of related work experience with the design of user interfaces. EX2002, ¶37. Alternatively, the person could have also had a Master of Science degree in a relevant academic discipline with less than a year of related work experience in the same discipline. *Id.* A POSITA would also include persons with a working knowledge of physiological monitoring technologies and/or optical sensors used in physiological monitoring technologies. *Id.*, ¶38. The person would have had a Bachelor of

Science degree in an academic discipline emphasizing the design of electrical, computer, software, or optical technologies, in combination with training or at least one to two years of related work experience with capture and processing of data or information, or designing and using optical sensors or systems, including but not limited to physiological monitoring technologies. *Id.* Alternatively, the person also could have had a Master of Science degree in a relevant academic discipline with less than a year of related work experience in the same discipline. *Id.*

Apple proposes a different level of skill. EX1003, ¶22; EX2002, ¶39. However, Apple does not contend that the level of skill in the art affects the patentability of the challenged claims. EX1003, ¶¶22-23; EX2002, ¶40. While Masimo submits that its level of skill is more accurate, for at least the reasons set forth below, Masimo agrees that the claims' patentability is confirmed regardless of the level of skill. EX2002, ¶40.

IV. OVERVIEW OF APPLE'S REFERENCES

Apple argues that the claims identified in its petition are rendered obvious by a combination of Naghavi, Hochstedler, and Burnes (Ground 1A), Naghavi, Hochstedler, Burnes, and Hayashi (Ground 1B), or Naghavi, Hochstedler, Burnes, Hayashi, and Mortz (Ground 1C). A summary of each reference is provided below.

A. Naghavi (EX1005)

U.S. Patent Pub. No. 2002/0184055 to Naghavi et al. is titled "System And Method For Healthcare Specific Operating System," and published on December 5, 2002. Naghavi describes a healthcare operating system with a graphic user interface (GUI) for personal computers developed for personal healthcare management. EX1005, ¶11; EX2002, ¶57. Figure 1 illustrates Naghavi's personal healthcare management system. *See* EX1005, ¶24.

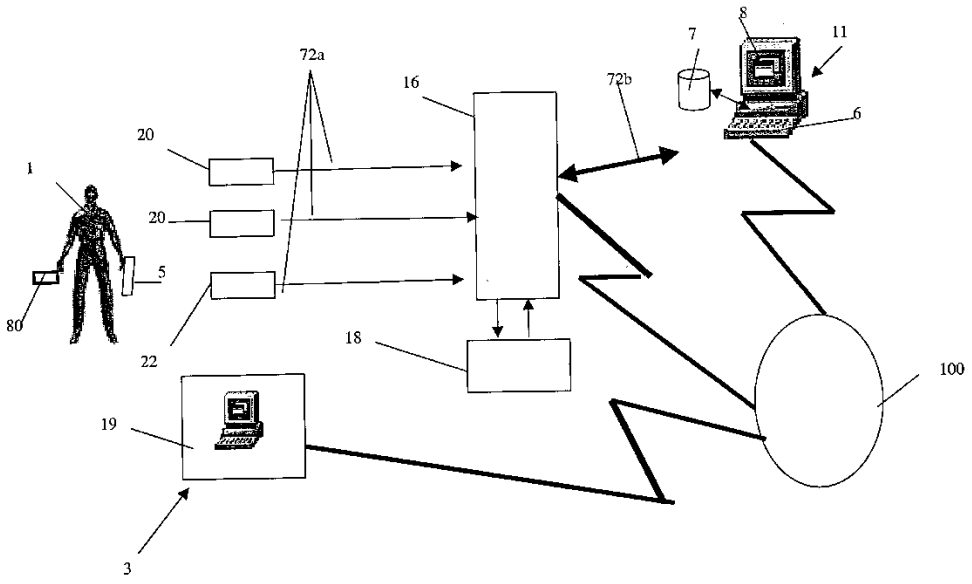


FIG. 1

Id., Fig. 1.

The personal healthcare management system includes a computer, a healthfolio, healthfolio database, medical diagnostic software, and one or more home-based medical devices. *Id.*, ¶¶25-26. The medical device or devices may comprise an "electrocardiograph device, a blood pressure measurement device,

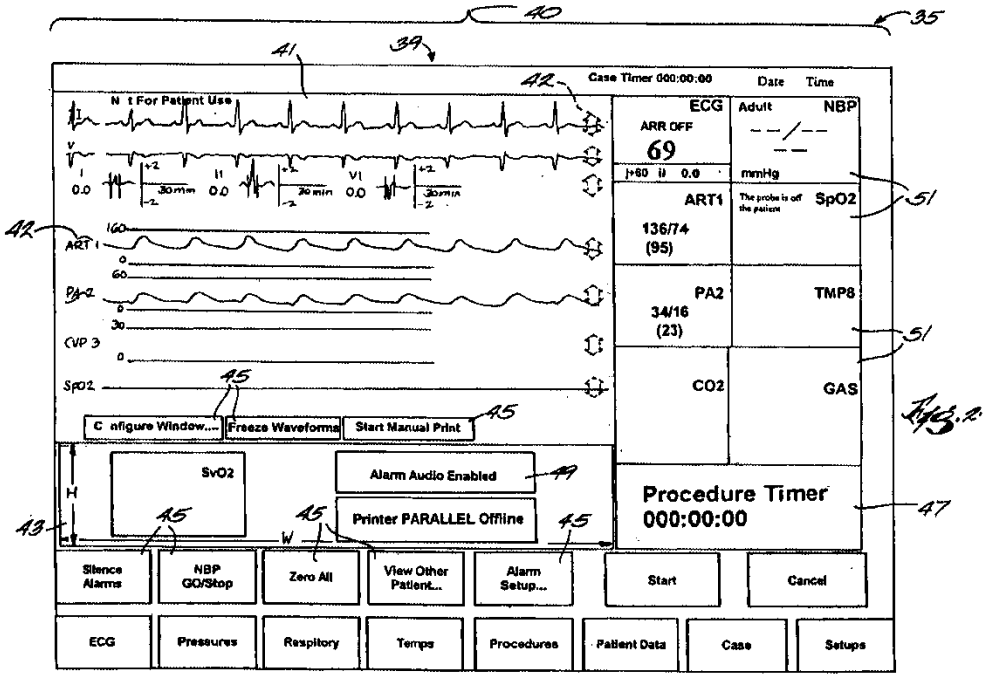
thermometers, digital biochemical devices, glucometers, and physiological laboratory kits, digital biomechanical monitoring devices, peak-flow meter, and the like, or combinations thereof." *Id.,* ¶32; EX2002, ¶57.

The personal healthcare management system gathers information about the patient, for example, "past medical history, symptoms, risk factors, ECGs, and the like, and stores them in heartfolio database." EX1005*.,* ¶41; EX2002, ¶58. The personal healthcare management system creates outputs for "risk stratification and management" by processing the current symptoms, past medical information, and dynamic physiologic data. EX1005, ¶44; EX2002, ¶58. The system outputs include patient advice and other actions, such as activating an alarm system or informing a health care provider. EX1005, ¶45; EX2002, ¶58.

Naghavi's personal healthcare management system has "a single visual display of displayed items comprising menus, health objects, icons, and options." EX1005, ¶58; EX2002, ¶59. The icons and health objects on the display "may change in color, shape, order, or other mutatable attribute according to different time schedules and severity or degree of some of findings, e.g. the shape, size, color, and relative position of each icon can change according to a current health status and health plan" of the patient. EX1005, ¶59; EX2002, ¶59.

B. Hochstedler (EX1004)

U.S. Patent No. 6,707,476 to Hochstedler is titled "Automatic Layout Selection For Information Monitoring System," granted on March 16, 2004. Hochstedler describes a graphical user interface (GUI) of a patient monitoring system. EX1004, 1:49-55, 3:6-11; EX2002, ¶60. An example of Hochstedler's GUI is shown below:



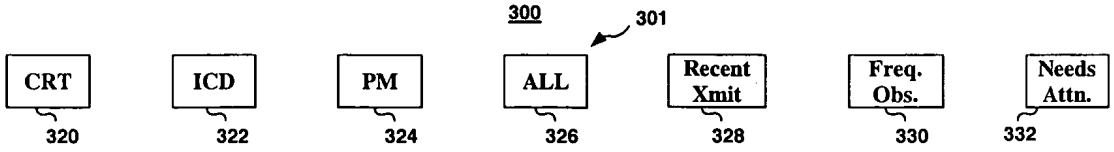
EX1004, Fig. 2.

Hochstedler monitors its system to "detect changes in the system's capabilities (e.g., an additional sensor is added) or changes in the system's environment (e.g., a switch is made from one medical procedure to another)." EX1004, 1:55-60; EX2002, ¶60. If Hochstedler's system determines that there has been a change in

either the system's capabilities or environment, "the system reviews a group of available layouts and determines which, if any, more closely matches the system as changed." EX1004, Abstract; EX2002, ¶60. "If an available layout more closely matches the changed system, then the system may implement an automatic change or switch of the layout or prompt the user to change the layout by presenting a selection of layout options." EX1004, 1:63-67.

C. Burnes (EX1006)

U.S. Patent Pub. No. 2006/0064020 to Burnes et al. is titled "Clinic Dashboard Monitor," and published on March 23, 2006. Burnes describes a "remote patient monitoring system including a graphical user interface (GUI) that displays a summary table of categorized parameter values for multiple patients simultaneously." EX1006, Abstract. Figure 7 illustrates Burnes's GUI:



Springfield Heart Failure Clinic 302

Patient Dashboard 308 310 312

303 Patient	304 Overall Status	306 Last TXFR (overdue)	Device Type	Patient Weight	Patient Symptoms	Blood Pressure	Patient Activity	Night Heart Rate	Lung Wetness	RV Pressure	Device Status
AA	●	7 Days (5)	CRT	No Data	No Data	OK	OK	OK	OK	N/A	●
BB	!	4 Days (1)	Pacemaker	175 (165)	OK	OK	OK	OK	N/A	N/A	!
CC	OK	3 Days (0)	ICD	180 (180)	OK	OK	●	OK	OK	N/A	OK
DD	●	3 Days (0)	CRT-ICD	172 (175)	SOB w/ Stairs	OK	●	OK	●	N/A	OK
FF	!	1 Day (0)	Chronicle	210 (200)	SOB at rest	●	●	OK	N/A	●	OK
GG	OK	30 Days (1)	Reveal	N/A	N/A	N/A	N/A	●	N/A	N/A	OK

FIG. 7

Id., Fig. 7

Burnes analyzes data received from patient-monitoring devices and displays summary parameter values "for multiple patients simultaneously allowing a clinician to easily scan summary data for a given patient group." *Id.*, ¶¶5, 31; EX2002, ¶62.

The parameters displayed depends, in part, "on the type of device the patient has and the particular monitoring features that are enabled." EX1006, ¶33. Burnes describes using icons to indicate the status of the patient or parameter, such as an exclamation point for an alert indicating a need for clinical attention, a solid circle as a warning symbol, and an "OK" as a normal symbol. *Id.,* ¶50; EX2002, ¶62.

D. Hayashi (EX1007)

U.S. Patent No. 6,151,518 to Hayashi is titled "Instrument For Measuring Concentrations Of Constituent Parts Of Blood," and issued on November 21, 2000. Hayashi describes a device that purports to noninvasively measure blood constituent concentrations. EX1007, 3:19-28; EX2002, ¶63. Hayashi purports to measure hematocrit value, oxyhemoglobin concentration, deoxyhemoglobin concentration, carboxyhemoglobin concentration, methemoglobin concentration, and an optical path length change. EX1007, Abstract, 3:29-32, 6:33-37.

E. Mortz (EX1009)

U.S. Patent No. 6,385,471 to Mortz is titled "System For Pulse Oximetry SpO_2 Determination," and issued on May 7, 2002. Mortz describes a system for noninvasively calculating pulse rate and the oxygenation of hemoglobin in arterial blood using a pulse oximeter. EX1009, 2:25-28, 5:16-21; EX2002, ¶64.

V. LEGAL STANDARD

Institution of an *inter partes* review is always discretionary. 35 U.S.C. § 314(a); *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) ("314(a) invests the Director with discretion on the question *whether* to institute review"); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.").

"In an IPR, 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). An IPR may not be instituted unless "the information presented in the petition … shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1" challenged claim. 35 U.S.C. § 314(a).

A patent claim is unpatentable as obvious only 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 to a POSITA at the time the invention was made. 35 U.S.C. § 103; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The obviousness inquiry requires considering the four *Graham* factors. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Furthermore, "the prior art, taken as a whole, must ***enable*** a skilled artisan to make and use the claimed invention" without undue experimentation. *Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1380 (Fed. Cir. 2021).

To prevail on any obviousness ground, it is insufficient to simply identify individual components of the claims in the prior art—one must show why a "skilled artisan, ***with no knowledge of the claimed invention***, would have selected these components for combination in the manner claimed." *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000). To satisfy its burden of proving obviousness, Apple cannot

rely on "mere conclusory statements." *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016). Rather, it must set forth "'articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.'" *KSR*, 550 U.S. at 418-19 (citation omitted). And a motivation to combine must be "accompanied by a reasonable expectation of achieving what is claimed in the patent-at-issue." *Intelligent Bio-Sys., Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). Additionally, the obviousness inquiry must be made without any "hint of hindsight." *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1375 (Fed. Cir. 2011).

VI. CLAIM CONSTRUCTION

The Board should give the claims their ordinary and customary meaning, consistent with the specification, as a POSITA would understand them. 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). Before the District Court of Delaware, Masimo explained that the claims have their plain meaning and thus require no construction. EX2032, 5, 16. Masimo takes the same position here. EX2002, ¶42.

Apple does not identify any terms for construction. Pet., 3. However, in the parties' Delaware Litigation, Apple proposed the following claim constructions: (1) "measured value" should be construed as "actual numeric value of a measurement"; and (2) "blood parameter" should be construed as "concentration of

a constituent in blood." EX2032, 8, 17. Masimo disagreed and maintained there, as it does here, that none of the terms require construction but rather should be given their ordinary and customary meaning. EX2002, ¶¶42-46; EX2032, 5, 13-14, 16, 22-23. Thus, the Board should give the terms their ordinary and customary meaning, consistent with the specification, as a POSITA would understand them. 37 C.F.R. § 42.100(b).

VII. THE BOARD SHOULD DENY INSTITUTION UNDER 35 U.S.C. §§ 314(a) AND 325(d)

Apple waited until the one-year statutory deadline to file this Petition. In the parallel Delaware Litigation involving the same patent, Apple successfully obtained an accelerated schedule. EX2011; EX2012; EX2013; EX2014. Under that schedule, the Delaware Litigation has already progressed through fact and expert discovery, dispositive motions, and is ready for trial. Apple fails to explain why it delayed in filing this Petition until this late stage of the Delaware Litigation. Because Apple waited so long, institution here would be inefficient and contrary to the goals of the AIA. Apple's unexplained delay in filing the Petition is one of many reasons why the *Fintiv* factors favor denying institution under § 314(a).

A. The *Fintiv* Factors Favor Denial Under § 314(a)

Fintiv sets forth six non-exclusive factors for determining "whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding." *Apple Inc. v.*

Fintiv Inc., IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*"). Under those factors, the advanced stage of the Delaware Litigation and significant investment in it support denying institution. Thus, rather than streamlining the disputes, the Petition needlessly expands them and creates the possibility of inconsistent decisions. The *Fintiv* factors thus support denying institution.

1. Factor 1: No Stay Has Been Sought and None Is Likely

Apple has neither sought a stay for the '223 Patent in the Delaware Litigation nor suggested it intends to do so. In fact, Apple ***opposed*** Masimo's motion to stay Apple's patent claims pending Masimo's instituted IPRs. EX2010. Apple represented that "this case is at a late stage," that "trial will likely occur months before the PTAB issues Final Written Decisions in [Masimo-filed] IPRs, the first of which is not due until September 20, 2024," and that it is seeking "trial ***at the Court's earliest available date.***" *Id.*, 2, 11 (emphasis added). Thus, this factor favors denying institution. *See, e.g.*, *Mylan Labs. Ltd. v. Janssen Pharmaceutica NV*, IPR2020-00440, Paper 17 at 14 (PTAB Sept. 16, 2020).

Apple mentions a stay for Masimo patents involved an ITC investigation. Pet., 76. But that stay (mandated by 28 U.S.C. § 1659) does not encompass the '223 Patent and is thus irrelevant to this factor. And Apple omits that the ITC determined that Apple infringed Masimo patents and violated 19 U.S.C. § 1337.

EX2003, 2-3. Apple also omits that the Board denied institution of IPRs for the Masimo patents infringed by Apple. EX2004; EX2005; EX2006; EX2007; EX2008; EX2009.

2. Factor 2: Under the District Court's Accelerated Schedule, Trial Is Expected Before The Projected Statutory Deadline

To argue against denial, Apple relies on a "statistically indicated December, 2025 district court trial date." Pet. 77. But Apple ignores the accelerated schedule that Apple obtained in the Delaware Litigation. EX2011; EX2012, 9:24-10:9; EX2013 (original schedule); EX2014 (amended schedule). And under that accelerated schedule, the Delaware Litigation has already proceeded through fact and expert discovery, dispositive motions, and is ready for trial. *See infra* Section VII.A.3. Under that accelerated schedule, trial will likely occur long before Apple's "statistically indicated date." Indeed, just three weeks after filing this Petition, Apple represented to the District Court: "***trial will likely occur months before the PTAB issues [FWDs] in [Masimo-filed] IPRs, the first of which is not due until September 20, 2024***." EX2010 at 2. Apple's arguments about the trial date undermine its statistical approach here and favor denial. *See, e.g.*, *US Venture, Inc. v. Sunoco Partners Marketing & Terminals LP*, IPR2020-00728, Paper 10, 9 (PTAB Oct. 1, 2020); *Supercell Oy v. GREE, Inc.*, IPR2020-01619, Paper 15, 10-11 (PTAB Mar. 24, 2021).

Apple also relies on a Masimo IPR petition that cited time-to-trial statistics. Pet. 77-78. But Masimo diligently filed that petition at the outset of the Delaware Litigation when statistics were the only timing data available. Indeed, Masimo filed its petition in February 2023—two months before the district court ordered a schedule. *Masimo Corp. v. Apple Inc.*, IPR2023-00634, Paper 1, 108 (PTAB Feb. 27, 2023). Unlike Masimo, Apple filed this Petition on the last possible day, after strategically obtaining extensive fact and expert discovery from Masimo. Under these circumstances, the stage of the case and accelerated case schedule support denial. *See, e.g.*, *US Venture*, Paper 10, 9.

Even if statistics are considered, Apple's generic and outdated statistics (EX1060, 14) should be rejected. The latest statistics show an average time-to-trial of approximately 34.9 months for patent cases in the District of Delaware in the year preceding the Petition. EX2015. Assuming Judge Hall takes over as district court judge in the pending cases she was previously assigned as magistrate judge, she would still preside over approximately 13% fewer cases than the other district judges in Delaware. EX2016; EX2017. Adjusting the time-to-trial based on Judge Hall's case load (i.e., from 34.9 months to 30.4 months), the expected trial date would occur in May 2025—approximately two months before the deadline for a FWD here. Thus, the pertinent statistics favor denial. *See, e.g.*, *Vector Flow, Inc. v. HID Global Corp.*, IPR2023-00353, Paper 8, 20 (PTAB July 17, 2023).

3. Factor 3: The Parties' Significant and Continuing Investment in the Litigation Weighs Against Institution

The amount and type of work already undertaken in the Delaware Litigation by the District Court and parties dwarfs Apple's investment in this Petition (and even Apple's collection of petitions) by orders of magnitude. At this stage of the litigation, the parties and District Court have completed:

(1) fact discovery, including producing millions of pages of documents, and responding to approximately fifty interrogatories and dozens of requests for admission per side;

(2) more than ***seventy-five fact depositions***;

(3) dozens of third-party subpoenas and numerous third-party depositions;

(4) infringement and validity contentions (including, for the '223 Patent, Apple's 2411 pages of initial invalidity contentions involving 20 references and Masimo's 29 pages of responsive contentions, as well as Apple's 2894 pages of final invalidity contentions and Masimo's 50 pages of responsive contentions);

(5) claim construction (20 pages of briefing on the '223 Patent, and four-hour hearing conducted over six months ago);

(6) expert discovery (33 expert reports comprising 12,000+ pages, including, for validity of the '223 Patent, 293 pages of Apple's expert's

opening report, 409 pages of Masimo's expert's rebuttal report, and 178 pages of Apple's expert's reply report);

(7) more than ***twenty-five expert depositions***; and

(8) more than twenty motions and dozens of hearings, including summary judgment and *Daubert*.[2]k

When, as here, final contentions are complete and fact and expert discovery closed by the time the Board makes an institution decision, "the third *Fintiv* factor weighs heavily in favor of discretionary denial." *See, e.g.*, *Roku*, 12; *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 14 (PTAB May 13, 2020) ("*Fintiv II*") (level of investment and effort already expended in the District Court favors denial).

Apple trivializes the parties' investment as shared "equally by both parties." Pet. 79. But the third *Fintiv* factor considers the overall investment in the parallel litigation by the parties and court regardless of whether the parties share that investment. *Fintiv* at 9. Apple improperly disregards the District Court's investment in the Delaware Litigation. *Id.*

Incredibly, Apple argues that its "substantial investment ***in petitions***…should counterbalance—and frankly ***outweigh***—the resources invested in the co-pending District Court litigation." Pet. 79 (emphasis added). But Apple has aggressively

[2] Apple refuses to allow confidential information from the Delaware Litigation to be used here.

litigated the Delaware Litigation with dozens of outside counsel. As an example of the magnitude of its investment in the Delaware Litigation, Apple had seven attorneys argue claim construction and brought so many additional attorneys to the hearing that the courtroom ran out of seats. EX2018, 4:10-14, 3:6-13. Masimo's investment in the Delaware Litigation also drastically exceeds Apple's investment in petitions. *See, e.g.*, EX2019 (explaining Masimo's over $100M investment in Apple litigation). Apple's investment in petitions falls far short of the overall investment by Apple, Masimo, ***and*** the District Court that this factor considers.

Apple also refers to its investment in petitions for the "10 patents asserted" by Masimo in the Delaware Litigation. Pet. 79. But this factor considers investment "***related to the patent at issue in the petition***." *Fintiv* at 9-10. Therefore, Apple's investment in IPRs challenging ***other*** patents does not support instituting this Petition.

Further, Apple's petitions for five of those other patents challenged the "[Masimo] patents reasserted from ITC litigation." Pet. 79. And Apple omits that it received refunds for eight such petitions on the ITC patents because the PTAB did not institute review. EXS2020-2027. Apple's unrelated petitions do not support instituting this Petition. *Fintiv,* 9-10.

Apple stipulates it will not pursue in the Delaware Litigation "any ground of invalidity that utilizes any of the prior art asserted in this petition." Pet., 80. Apple

argues that stipulation is somehow "broader" than a *Sotera* stipulation. *Id.* But that is incorrect. In a *Sotera* stipulation, a party agrees not to pursue in district court "any grounds that could have reasonably been raised in the petition." EX1061, 7-8. *Sotera* stipulations thus mitigate inefficiency and a risk of conflicting decisions. *Id.* In contrast, Apple's stipulation preserves for the Delaware Litigation the printed publication-based invalidity contentions that Apple presents there. EX2028. And Apple could have raised those grounds in this Petition. *Id.* Thus, Apple's narrow stipulation is not a *Sotera* stipulation and does not adequately protect against inefficiency or the risk of conflicting decisions.

In sum, under the circumstances, the third *Fintiv* factor heavily favors denying institution.

4. Factor 4: The Validity Issues in the Petition Overlap with the Delaware Litigation

Apple's Petition raises validity issues that overlap with the Delaware Litigation. Apple asks both the Board and the District Court to decide validity based on printed publications. *Compare* EX2028 *with* Pet. 1-2. Apple does not eliminate the overlap in ***issues*** by electing to rely on other printed publications for its obviousness grounds in Delaware. Apple could have waived using publication-based validity arguments in the Delaware Litigation by providing a *Sotera* stipulation here. But Apple did not. *Supra* Section VII.A.3. And Apple's narrow stipulation fails to resolve concerns of duplicative efforts and conflicting decisions

between the Board and district court. *Id.*; *see, e.g.*, *ResMed*, 15. For at least these reasons, the fourth factor favors denying institution.

5. Factor 5: The Delaware Litigation Involves The Same Parties

The fifth factor also weighs against institution because the Petition and Delaware Litigation involve the same parties. *See, e.g.*, *Supercell OY v. Gree, Inc.*, PGR2020-00039, Paper 14 at 18 (PTAB Sept. 14, 2020).

6. Factor 6: Other Considerations Favor Denying Institution

Because the first five *Fintiv* factors favor denying institution, the only remaining consideration is whether the Petition presents a "compelling, meritorious challenge" that meets the "compelling merits" standard. *Roku*, 15; *CommScope Techs. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 at 5 (Feb. 27, 2023)(precedential)("*CommScope*"). "The Director defines '[c]ompelling, meritorious challenges [as] those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence.'" *Roku*, 15. This "compelling merits standard is a higher standard than the standard for institution set by statute." *CommScope*, 3.

Apple fails to present a compelling, meritorious challenge. Among other limitations, the claims require replacing or changing a measured value of a first physiological parameter on a display with a measured value of a second physiological parameter because a parameter is approaching one or more threshold

values indicating a worsening state of the patient (Claims 1, 13, 21), alarming (Claim 15), more critical than another parameter (Claim 18), or passes an alarm threshold (Claims 27, 28). As explained below, none of the references teach, suggest, or render obvious these claim limitations. *See infra* Section VIII. In sum, the sixth *Fintiv* factor also favors denying institution.

VIII. NO GROUND ESTABLISHES OBVIOUSNESS

The Petition does not establish a reasonable likelihood of Apple successfully showing any challenged claim would have been obvious to a POSITA.

A. Ground 1A Does Not Establish Obviousness

Apple argues that Claims 1-4, 6, 11-18, and 20-22 would have been obvious to a POSITA at the time of invention in view of Naghavi, Hochstedler, and Burnes. Apple fails to demonstrate these claims would have been obvious over the proposed combination of references. *See, e.g.,* EX2002 ¶¶65-116.

1. Apple Fails To Show That The References Or Their Combination Disclose "The Display Of One Of The Measured Values Of The First Or Second Physiological Parameter Is Replaced With The Other Of The Measured Values Based On An Occurrence Of An Event, The Event Being The Measured Value Of One Of The First Or Second Physiological Parameters Approaching One Or More Threshold Values Indicative Of A Worsening State Of A Patient" (Claim 1 And Dependent Claims 2-4, 6, 11, 12)

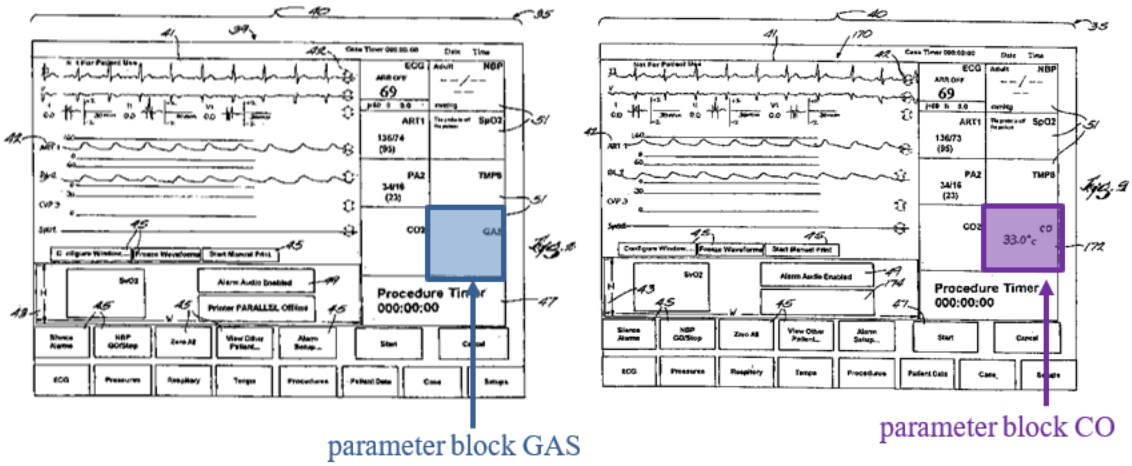
Claim 1 of the '223 Patent recites, in part, "the display of one of the measured values of the first or second physiological parameter is replaced with the other of the

measured values based on an occurrence of an event, the event being the measured value of one of the first or second physiological parameters approaching one or more threshold values indicative of a worsening state of a patient." For simplicity, this response refers to this limitation as the "Replacing Limitation." Apple argues that the combination of Naghavi, Hochstedler, and Burnes discloses the Replacing Limitation. However, none of these references teach, suggest, or render obvious the Replacing Limitation, either alone, or in combination. EX2002, ¶¶66-88.

a. Hochstedler Does Not Disclose The Replacing Limitation

Apple relies upon several display layouts from Hochstedler as allegedly disclosing the Replacing Limitation. Pet., 22-27. However, Hochstedler does not disclose ***replacing*** a first measured value of a parameter with a second measured value of a parameter based on one of the parameters approaching a threshold value indicating a worsening state of the patient as required by Claim 1 of the '223 Patent. EX2002, ¶67.

Apple relies on two types of display layout changes from Hochstedler for the Replacing Limitation. Pet., 25-30. The ***first*** type changes from the layout shown in Fig. 2 to the layout shown in Fig. 9. Pet., 25-26. The displays of Fig. 2 and Fig. 9 are illustrated below.



EX1004 at Figs. 2, 9 (annotations added); EX2002, ¶68.

Hochstedler explains that the display layout of Fig. 2 switches to the display layout of Fig. 9 when there is either (a) a change in the system *capabilities* or (b) a change in the system *environment*. EX1004, 5:24-25; EX2002, ¶69. The (a) change in the system *capabilities*, occurs when sensors have been added or removed in the system, such as a blood sensor being added or removed. *See, e.g.*, EX1004, 5:27-28; EX2002, ¶69. Once Hochstedler's system recognizes a change in capabilities, the layout is modified to display information associated with the added or removed capability. EX1004, 5:29-31; EX2002, ¶69.

The (b) change in the *environment* of the system, includes a change of user, a change in the phase of the case, a change in the care unit or type of care unit, a change in the type of medical procedure being carried out, or similar changes. EX1004, 5:24-25, 5:32-36; EX2002, ¶70.

When Hochstedler detects either a change in the (a) capabilities or (b) environment, it displays a dialog box as shown in Fig. 8 (reproduced below), to prompt the user to accept or cancel the switch. EX1004, 2:39-42, 8:30-40, Fig. 8; EX2002, ¶71. The layout will change to the display shown in Fig. 9 if the user confirms the switch. EX1004,at 8:38-40; EX2002, ¶¶69, 70-72.

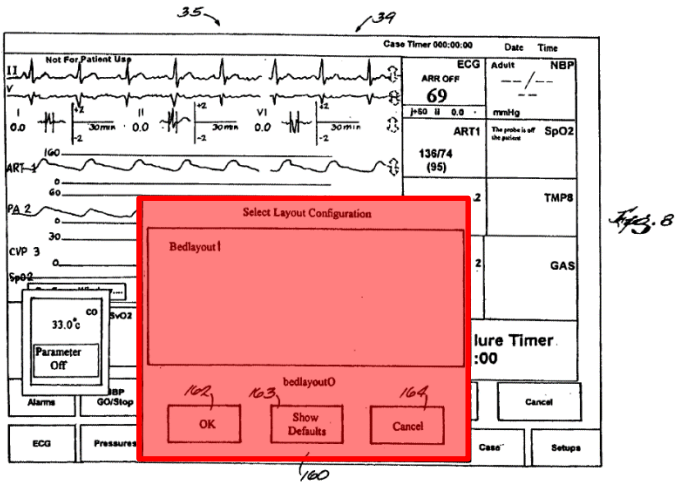
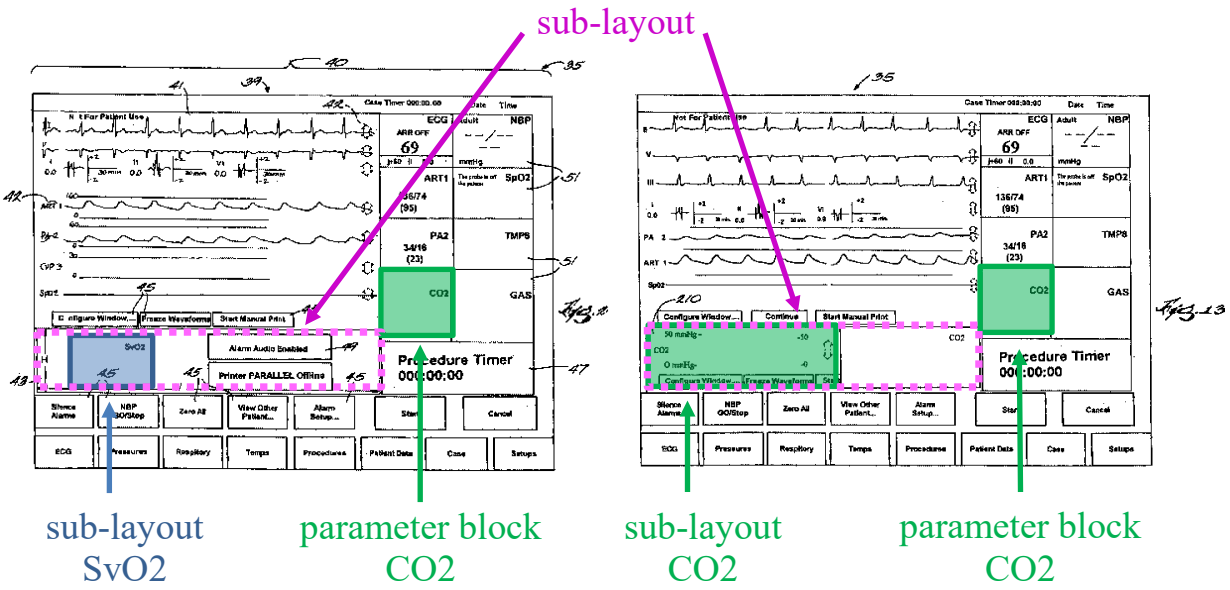


Fig. 8

EX1004, FIG. 8 (annotation added).

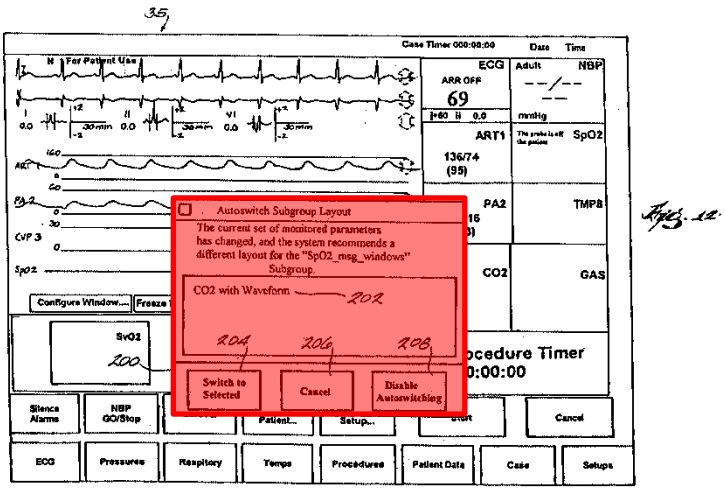
The layout change from Fig. 2 to Fig. 9 does not occur because one of the monitored parameters approaches a threshold indicating a worsening state of the patient as required by the Replacing Limitation. EX2002, ¶72. Rather, the layout change from Fig. 2 to Fig. 9 occurs because of a change to the *system*, e.g., the sensors associated with the system changed or the environment changed. EX2002, ¶72. For example, as shown in Figs. 2 and 9 above, the sensors in the system changed so that the parameters being monitored in the Hochstedler system removed "GAS" in Fig. 2 and added "CO" in Fig. 9. EX2002, ¶72.

The ***second*** type changes from the display in Fig. 2 to the display in Fig. 13. Pet., 26-28. The displays of Fig. 2 and Fig. 13 are illustrated below.



EX1004, Figs. 2, 13 (annotations added); EX2002, ¶73.

Hochstedler explains that the layout changes from Fig. 2 to the layout in Fig. 13 when a parameter is added or removed that is displayed in the sub-layout area. EX1004 at 8:56-60; EX2002, ¶74. When a parameter is added or removed, Hochstedler displays the dialog box shown in Fig. 12, which informs the user that the "current set of monitored parameters has changed" and recommends a layout switch. EX1004 at 8:56-60, Fig. 12; EX2002, ¶74.



EX1004 at Fig. 12 (annotation added); EX2002, ¶74.

Similar to the display layout change from Fig. 2 to Fig. 9, the display layout change from Fig. 2 to Fig. 13 does not occur because a parameter is approaching a threshold indicating a worsening state of a patient. As explained above, the layout change occurs because there is a change in the parameter being monitored, e.g., the "SvO2" sensor is removed from the system. EX2002, ¶75. The layout change from Fig. 2 to Fig. 13 is therefore a result of a change to the *system*. EX2002, ¶¶74-76. Further, once a parameter is no longer measured, it ceases to be a "measured value," of a parameter.

Moreover, switching from the display layout in Fig. 2 to Fig. 13 does not "replace" SvO2 with CO2 because CO2 is *already* visible in the display of Fig. 2. EX2002, ¶76. Removing SvO2 from the sub-layout of Fig. 2 and displaying CO2 in the same sub-layout in Fig. 13 does not replace a first measured value of a

parameter with the measured value of a second parameter, as CO2 was already displayed in Fig. 2. EX2002, ¶76.

b. Naghavi Does Not Disclose The Replacing Limitation

Apple argues that the combination of Hochstedler, Naghavi, and Burnes discloses the Replacing Limitation because, according to Apple, changes to the layout of the GUI of Naghavi are "triggered based on the 'severity' of 'changes in [patient] health status' related to the monitored parameters." Pet., 12. But that is not what Naghavi describes. EX2002, ¶¶77-83.

Naghavi describes a personal healthcare management system comprised of one or more home-based medical devices and a computer with a GUI. EX1005, ¶¶24-25; EX2002, ¶78. Naghavi has very limited teachings regarding the information on its GUI. In fact, Apple's expert concedes that the "particular implementation of the GUI … is not specifically described by Naghavi." EX1003 at ¶36. The minimal description in Naghavi regarding GUI changes does not teach, suggest, or render obvious the Replacing Limitation.

Naghavi explains that the GUI "dynamically changes and orders the display of icons, health objects, and menus ***according to a personal health condition and schedule***," EX1005, ¶57; EX2002, ¶79. Naghavi further explains that the GUI can "further change and show different types of icons and health objects ***according to different diseases and/or other physical conditions***." EX1005, ¶59; EX2002, ¶79.

Naghavi's system "may automatically detect changes in health status and health plan for patient 1 and automatically ***react and rearrange the available options*** to best suit the condition of patient 1." EX1005, ¶63; EX2002, ¶79. When Naghavi determines the health status, the GUI "***mutates one or more desired mutatable characteristics of a displayed graphic user interface element***." EX1005, ¶99; EX2002, ¶79.

Naghavi does not describe replacing one measured value of a parameter with another measured value of a parameter, much less replacing the measured value as the result of a parameter approaching a threshold value. EX2002, ¶¶80-81. Rather, Naghavi describes changing the GUI because of diseases or health status of the patient. EX1005 at ¶59; EX2002, ¶79. When the GUI changes, Naghavi reorders or mutates the icons, health objects, and menus. EX1005 at ¶63, 99; EX2002, ¶79.

In fact, Naghavi does not teach or suggest that its system monitors physiological parameters that are not displayed on the GUI. EX2002, ¶¶80-81. Naghavi describes using a large display, such as a computer, with sufficient real estate to display ***all*** monitored parameters simultaneously. EX1005 at Abstract, Fig.1, 11, 58; EX2002, ¶81. Indeed, Naghavi explains that its system uses an "easy-to-access" and "user-friendly" GUI with "a ***single*** visual display of displayed items comprising menus, health objects, icons, and options." EX1005 at ¶58; EX2002, ¶81. From its description, a POSITA would understand that Naghavi displays all

the parameters that it is monitoring. EX2002, ¶81. Naghavi does not teach, suggest, or render obvious replacing one physiological parameter with another physiological parameter on its display. EX2002, ¶81.

Naghavi also does not describe replacing a measured value of a physiological parameter with a measured value of a second physiological parameter based on a value crossing a threshold. EX2002, ¶82. While Naghavi explains that its system can include an alarm system and a notification message, Naghavi does not describe that the alarm or notification causes the replacement of one physiological parameter with another physiological parameter. EX1005, ¶¶45, 93; EX2002, ¶82. When Naghavi discusses changing icons in the GUI, the changes occur because of "a personal health condition and schedule" (EX1005, ¶57) or "different diseases and/or other physical conditions" (EX1005, ¶59). EX2002, ¶82. None of the GUI changes occur because a measured value approaches or crosses a threshold, as required by the Replacing Limitation.

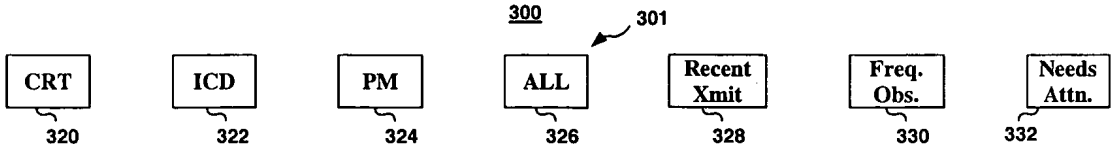
Naghavi, therefore, does not teach, suggest, or render obvious the Replacing Limitation. EX2002, ¶83.

c. <u>Burnes Does Not Disclose The Replacing Limitation</u>

Apple relies upon Burnes because it allegedly describes making changes to its GUI "based on detected changes in patient condition." Pet., 10. However, Burnes

does not teach, suggest, or render obvious the Replacing Limitation. EX2002, ¶¶84-87.

Burnes describes a remote patient monitoring system with a display. EX1006, Abstract; EX2002, ¶85. The display shows monitored parameters, which depend on the type of device the patients have and the particular monitoring features that are enabled. EX1006, ¶33, EX2002, ¶85. The display shows the records for multiple patients simultaneously. EX1006, ¶36. An example of a display with multiple patient records is shown below.



Springfield Heart Failure Clinic 302

Patient Dashboard 308 310

303 Patient	304 Overall Status	306 Last TXFR (overdue)	Device Type	Patient Weight	Patient Symptoms	Blood Pressure	Patient Activity	Night Heart Rate	Lung Wetness	RV Pressure	312 Device Status
AA	●	7 Days (5)	CRT	No Data	No Data	OK	OK	OK	OK	N/A	●
BB	!	4 Days (1)	Pacemaker	175 (165)	OK	OK	OK	OK	N/A	N/A	!
CC	OK	3 Days (0)	ICD	180 (180)	OK	OK	●	OK	OK	N/A	OK
DD	●	3 Days (0)	CRT-ICD	172 (175)	SOB w/ Stairs	OK	●	OK	●	N/A	OK
FF	!	1 Day (0)	Chronicle	210 (200)	SOB at rest	●	●	OK	N/A	●	OK
GG	OK	30 Days (1)	Reveal	N/A	N/A	N/A	N/A	●	N/A	N/A	OK

FIG. 7

EX1006, Fig. 7.

Burnes explains that its system computes parameter values and categorizes the parameter values into categories such as (1) an "alarm" category, for values that may require medical attention; (2) a "warning" category, for values which may soon need medical attention; and (3) a "normal" category, for values which do not need clinical attention. *See* EX1006, ¶37-40; EX2002, ¶86. Fig. 7 provides an example of these categories, where the symbol used for the "alarm" category is an exclamation point, the symbol used for a "warning" category is a solid circle, and the symbol used for a "normal" category is an "OK." *See* EX1006, ¶50; EX2002, ¶86.

Burnes displays parameter values or status symbols for the parameter values. EX2002, ¶87. Barnes also changes the status symbol for a particular parameter as that parameter changes. EX2002, ¶87. But Burnes does not ***replace*** one parameter value for a different parameter value. EX2002, ¶87. Burnes also does not replace one parameter value for a second parameter value when one of the parameters crosses a threshold value. EX2002, ¶87. Thus, Burnes does not teach, suggest, or render obvious the Replacing Limitation.

d. <u>The Combination Of Naghavi, Hochstedler, and Burnes Does Not Disclose The Replacing Limitation</u>

As explained above, none of the references teach, suggest, or render obvious the Replacing Limitation—"the display of one of the measured values of the first or second physiological parameter is replaced with the other of the measured values based on an occurrence of an event, the event being the measured value of one of

the first or second physiological parameters approaching one or more threshold values indicative of a worsening state of a patient." Because none of the references teach, suggest, or render obvious the Replacing Limitation, the combination also does not disclose it or render it obvious. EX2002, ¶88. As discussed below in Section VIII.A.7, a POSITA would not be motivated to combine these references, and, even if combined, would not arrive at the claimed invention.

2. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area Is Configured To Default To Displaying One Of The Measured Values Of The First Or Second Physiological Parameters" (Dependent Claim 4)

Claim 4 recites "the common display area is configured to default to displaying one of the measured values of the first or second physiological parameters." Apple incorrectly argues that Hochstedler describes this limitation. EX2002, ¶¶89-92.

Apple argues that a POSITA would have understood or found it obvious that Hochstedler's "GUI has a default layout" because Hochstedler "includes 'a default selection button.'" Pet., 32. Hochstedler describes default *settings* but not default *layouts*. *See, e.g.*, EX1004, 5:39-42, 7:63-8:3, 8:30-38, Fig. 8 (showing "show defaults" as an option); EX2002, ¶90.

Hochstedler makes clear that default *settings* are not the same as default *layouts*. *See* EX2002, ¶¶90-91. Hochstedler uses an algorithm to dynamically

recommend layouts using weights assigned to the components in the system. EX1004, 6:50-8:9 EX2002, ¶¶90-91. For example, Hochstedler describes ***default weights*** for different components. EX1004, 7:66-8:2; EX2002, ¶90. Hochstedler selects the "layout with the highest weighted score." EX1004, 7:7-14; EX2002, ¶91. Hochstedler also describes that it has a default setting that will not change the layout if the system changes (i.e., a parameter is removed or added). EX1004, 5:39-42; EX2002, ¶91. As shown in Fig. 8, a user can select "Show Defaults" to view these system defaults. EX1004, Fig. 8, 8:36-38; EX2002, ¶90.

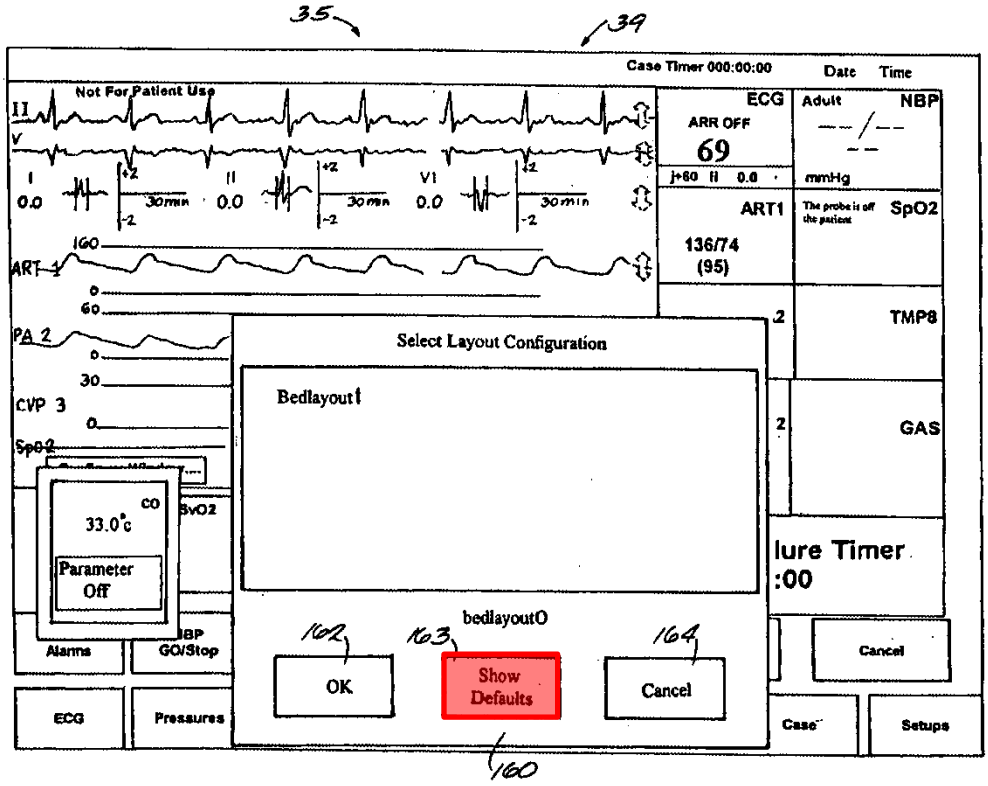


Fig. 8

EX1004 at Fig. 8; EX2002, ¶90.

Hochstedler does not describe a default *layout*. EX2002, ¶91. Rather Hochstedler teaches against using a default layout, instead discussing a system which uses a weighted algorithm to recommend layouts based on the system. EX1004, 6:50-8:9; EX2002, ¶91-92. Hochstedler selects layouts to match the system, rather than using a default layout. EX2002, ¶92. Hochstedler, therefore, does not teach, suggest, or render obvious "the common display area is configured to default to displaying one of the measured values of the first or second physiological parameters."

3. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area Changes From Displaying One Of The Measured Values Of The First Or Second Physiological Parameter To Displaying The Other Of The Measured Values Based On An Occurrence Of An Event, The Event Being The Measured Value Of One Of The First Or Second Physiological Parameters Approaching One Or More Threshold Values Indicative Of A Worsening State Of A Patient" (Claim 13)

Claim 13 recites "the common display area changes from displaying one of the measured values of the first or second physiological parameter to displaying the other of the measured values based on an occurrence of an event, the event being the measured value of one of the first or second physiological parameters approaching one or more threshold values indicative of a worsening state of a patient." As with Claim 1, Apple relies on a combination of Naghavi, Hochstedler, and Burnes to argue that Claim 13 is obvious. Pet., 35-36. For at least the reasons discussed above

with respect to Claim 1, Apple does not show that Naghavi, Hochstedler, and Burnes, alone or in any combination, teaches, suggests, or renders obvious this limitation. *See supra* Section VIII.A.1; EX2002, ¶¶88, 93.

4. Apple Fails To Show That The References Or Their Combination Disclose "The Common Display Area, The Display Of One Of The Measured Values Of The First Or Second Physiological Parameter Is Replaced With The Other Of The Measured Values Of The First Or Second Physiological Parameters Based On An Occurrence Of An Event, The Event Being One Of The Measured Values Of The First Or Second Physiological Parameters Alarming" (Claim 15 And Dependent Claim 16 And 17)

Claim 15 recites "the common display area, the display of one of the measured values of the first or second physiological parameter is replaced with the other of the measured values of the first or second physiological parameters based on an occurrence of an event, the event being one of the measured values of the first or second physiological parameters alarming." While each of Claims 1 and 13 recite that the "event" is one of the parameters "approaching one or more threshold values indicative of a worsening state of a patient," Claim 15 recites that the parameter is "alarming."

Similar to its argument on Claim 1, Apple relies upon a combination of Naghavi, Hochstedler and Burnes as allegedly rendering obvious Claim 15. Pet., 37-38. For at least the reasons discussed above with respect to Claim 1, Apple does not show that Naghavi, Hochstedler, and Burnes, alone or in any combination

teaches, suggests, or renders obvious this limitation. *See supra* Section VIII.A.1; EX2002, ¶¶88, 94-95.

5. Apple Fails To Show That The References Or Their Combination Disclose "In The Common Display Area, The Display Of One Of The Measured Values Of The First Or Second Physiological Parameters Is Replaced With The Other Of The Measured Values Of The First Or Second Physiological Parameters Automatically Based On Which Is A More Critical One Of The Measured Values Of The First Or Second Physiological Parameters" (Claim 18 And Dependent Claim 19 and 20)

Claim 18 recites "in the common display area, the display of one of the measured values of the first or second physiological parameters is replaced with the other of the measured values of the first or second physiological parameters automatically based on which is a more critical one of the measured values of the first or second physiological parameters." Claims 1, 13, and 15 recite a similar limitation. Claims 1 and 13 require the "event" to be a parameter "approaching one or more threshold values indicative of a worsening state of a patient," and Claim 15 requires the parameter to be "alarming." Similarly, Claim 18 requires replacing the parameter on the display "based on which is a more critical" parameter.

As with Claims 1, 13, and 15, Apple argues that the combination of Naghavi, Hochstedler, and Burnes renders obvious Claim 18. Pet., 39. For at least the reasons discussed above with respect to Claim 1, Apple does not show that Naghavi,

Hochstedler, and Burnes, alone or in any combination teaches, suggests, or renders obvious this limitation. *See supra* Section VIII.A.1; EX2002, ¶88, 96-97.

Apple also fails to show that the references, alone or in combination, disclose replacing a parameter "based on which is [the] more critical" parameter. Apple argues that a "parameter (e.g., the second parameter) becoming (near) out of range indicates that the second parameter is a more critical one of the parameters, e.g., compared to a parameter that has not changed." Pet., 39 (citing EX1003 at ¶109). However, the references do not teach, suggest, or render obvious determining which parameter is more "critical." EX2002, ¶98. Because each of the references describes displaying all monitored parameters at the same time, their systems do not need to determine which parameter is more "critical." EX2002, ¶98. Thus, there is no need to display one parameter that is more critical than any other parameter when all parameters are displayed. EX2002, ¶98.

6. Apple Fails To Show That The References Or Their Combination Disclose "Replacing The Display Of The Measured Value Of The First Physiological Parameter With A Display Of A Measured Value Of A Second Physiological Parameter In The Display Location When A Change In The Measurement Of The Second Physiological Parameter Indicates A Worsening State Of The Patient"
(Claim 21 And Dependent Claim 22)

Claim 21 recites "in the common display area, the display of one of the measured values of the first or second physiological parameters is replaced with the other of the measured values of the first or second physiological parameters

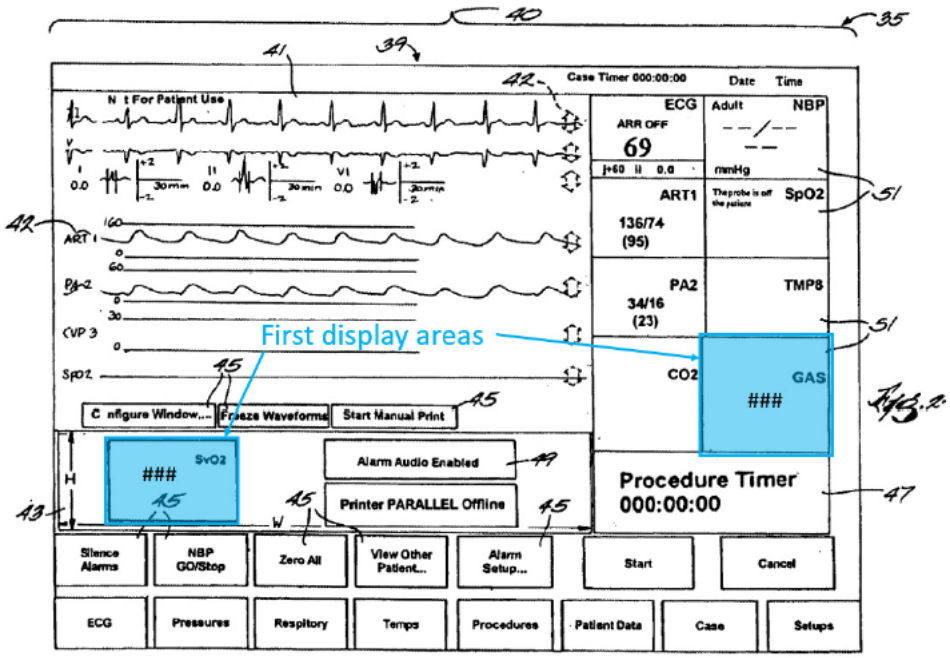
automatically based on which is a more critical one of the measured values of the first or second physiological parameters." For both Claim 1 and Claim 21, Apple relies on the combination of Naghavi, Hochstedler, and Burnes. Pet., 40-42. For at least the reasons discussed above with respect to Claim 1, Apple fails to show that Naghavi, Hochstedler, and Burnes, alone or in any combination teaches, suggests, or renders obvious this limitation. *See supra* Section VIII.A.1; EX2002, ¶¶88, 99.

7. Apple Fails To Show That Hochstedler Discloses "Measured Value" As Construed By Apple In The Delaware Litigation (Claims 1, 13, 15, 18, 21 And Dependent Claims 4, 6, 11, 12, 14, 16, 17, 20)

Each of the independent claims that Apple challenges under Ground 1A (Claims 1, 13, 15, 18, and 21) recite "measured values." In the Delaware Litigation, Apple argues that the term "measured value" should be construed as the "actual numerical value of a measurement." EX2032, 16-17. Apple further argues that "the 'measured value' displayed is the actual measured value of a parameter – not merely a notification that a parameter is approaching or has passed a predetermined threshold or any other rough or indirect indication." EX2032, 16-17. Apple does not propose this construction in the present IPR, but instead argues that no construction is required. Pet., 3; EX2002, ¶100.

For displaying "measured values," Apple relies on figures from Hochstedler. Pet., 23-24. But Apple acknowledges that Hochstedler's figures do not illustrate values in the parameter blocks in the figures Apple relies on. Pet., 21; EX2002,

¶101. Rather, Apple adds the symbol "###" to Hochstedler's figures to "represent the measured numeric values." EX1003, ¶66; EX2002, ¶101. An example annotated figure from Apple's Petition is reproduced below:



Pet., 20. As demonstrated by Apple's annotations, Hochstedler's figures do not display a "measured value" under Apple's proposed construction in the Delaware Litigation. EX2002, ¶101.

8. A POSITA Would Not Be Motivated to Combine Naghavi, Hochstedler, and Burnes

Naghavi, Hochstedler, and Burnes individually do not disclose replacing one parameter on a display for another parameter because a parameter is approaching one or more threshold values indicating a worsening state of the patient (Claims 1, 13, 21), alarming (Claim 15), more critical than another parameter (Claim 18), or

passes an alarm threshold (Claims 27, 28), for the reasons explained in this Response. However, Apple also incorrectly argues that the ***combination*** of these three references discloses this limitation. *See, e.g.*, Pet., 9-30; *see also* EX2002, ¶¶102-116.

a. <u>Apple Relies On Improper Hindsight Bias To Combine References To Create Features The References Do Not Disclose</u>

As explained in Section VII.A.1, Naghavi, Hochstedler, and Burnes do not teach, suggest, or render obvious replacing one parameter for another parameter as claimed in the '223 Patent. *See also* EX2002, ¶103. Hochstedler describes a GUI that changes its layout when there is (a) a change in capabilities (such as removing or adding sensors to the system), or (b) a change in the environment (such as moving the system to a different care unit). EX1004, 1:55-60; EX2002, ¶104. Naghavi describes a patient monitoring system with a display capable of displaying the health information of a patient. EX1005, ¶¶59, 83; EX2002, ¶104. Burnes describes a display that depicts health information for multiple patients simultaneously. EX1006, Abstract, ¶5; EX2002, ¶104.

Naghavi, Hochstedler, and Burnes do not teach, suggest, or render obvious monitoring parameters that are not displayed. EX2002, ¶¶103-105. Rather, these references describe systems that display ***all*** the monitored parameters. EX2002, ¶104. Because the systems display all the monitored parameters, a POSITA would

not have been motivated to use their teachings to replace one measured value of a physiological parameter for another value of a physiological parameter. EX2002, ¶104. And because these references do not teach, suggest, render obvious, or provide motivation for replacing one physiological parameter with another physiological parameter, a POSITA also would not be motivated to replace any parameters when a parameter is approaching one or more threshold values indicating a worsening state of the patient (Claims 1, 13, 21), alarming (Claim 15), more critical than another parameter (Claim 18), or passes an alarm threshold (Claims 27, 28). EX2002, ¶104.

Relying on impermissible hindsight, Apple uses the claims as a guide to select excerpts from each reference to construct a system that allegedly contains the claim limitations of the ’223 Patent. EX2002, ¶105. Apple selectively quotes the references to create the very invention claimed in the ’223 Patent. EX2002, ¶105. But Apple fails to present any reason, other than the teachings of the ’223 Patent, to select those particular quotes or use them together. EX2002, ¶105.

b. <u>A POSITA Would Not Implement Naghavi’s Icons And Health Objects Into The Display Layouts Of Hochstedler</u>

Apple argues that a “POSITA would have been motivated to display icons/health objects in layouts, *e.g.,* according to Hochstedler.” Pet., 13. But Naghavi and Hochstedler would not motivate a POSITA to combine the references as suggested by Apple. EX2002, ¶106-110.

Hochstedler and Naghavi describe systems that display all the monitored parameters. EX2002, ¶107. In Hochstedler, when a sensor is added or removed (i.e., a change in the capabilities of the system), the GUI layout changes to reflect the change in system capabilities. *See* EX1004 at 5:27-31; EX2002, ¶107. Naghavi uses a large, single visual display, such as a computer, to display the menus, health objects, icons, and options. *See* EX1005 at ¶58; EX2002, ¶107. The single visual display is sufficiently large enough to display all monitored parameters in a "user friendly GUI," that is "easy-to-access." *See* EX1005 at ¶58; EX2002, ¶107. Because all monitored parameters are displayed by both Hochstedler and Naghavi, a POSITA would not be motivated to combine Hochstedler and Naghavi to arrive at a layout that removes a monitored parameter from the display. EX2002, ¶108. In fact, removing a monitored parameter is counter to Naghavi. EX2002, ¶110. Because Naghavi teaches using a single, easy-to-access, user-friendly display, a POSITA would not be motivated to complicate the display by hiding a parameter that is monitored. EX2002, ¶¶107-110.

Moreover, a POSITA would not be motivated to replace a parameter on the display based on the severity of a parameter change, as the severity of the parameter change would *already* be visible to the user. EX2002, ¶110. Hochstedler and Naghavi explain that their systems will alarm if needed, eliminating any need to complicate the display by replacing parameters. EX2002, ¶108.

Apple argues the following passage from Naghavi would provide motivation to a POSITA to modify the layout of Hochstedler:

> The icons and health objects may change in color, shape, order, or other mutatable attribute according to different time schedules and severity or degree of some of findings, e.g. the shape, size, color, and relative position of each icon can change according to a current health status and health plan of patient 1.

EX1005 at ¶59. However, a POSITA would not be motivated by this passage to modify Hochstedler as suggested by Apple. This passage does not describe adding an icon or health object to the display for a parameter that is monitored but not displayed. EX1005, ¶¶57-59; EX2002, ¶109. Rather, this passage describes changing the color, size, shape, or position of the "icons and health objects" already displayed by the system. EX1005, ¶¶57-59; EX2002, ¶109. A POSITA, therefore, would not be motivated to modify the layout of either reference because all monitored parameters would already be displayed. EX2002, ¶109. Indeed, combining the references to remove a monitored parameter from the display would be contrary to Naghavi's use of a user friendly GUI with a "single visual display" that is "easy to access." EX2002, ¶110.

c. <u>A POSITA Would Not Have Been Motivated to Switch The Layout From One Parameter To A Second Parameter When The Second Parameter Is Out Of Range Or Approaches Out Of Range</u>

Apple argues that Burnes provides motivation to switch the layout from Hochstedler when a parameter value approaches or exceeds a threshold. Pet., 14;

EX1003 at ¶47. However, a POSITA would not have been motivated to make this combination. EX2002, ¶111-116.

First, as explained in detail in Section VIII.A.1, Naghavi, Burnes, and Hochstedler do not describe replacing one parameter on a display for another parameter because a parameter is approaching one or more threshold values indicating a worsening state of the patient (Claims 1, 13, 21), alarming (Claim 15), more critical than another parameter (Claim 18), or passes an alarm threshold (Claims 27, 28). While Burnes changes icons based on when parameters are near or out of range, the changes are to icons for parameters that are already on the display. EX1006 at Fig. 7, ¶¶39-40, 49-50; EX2002, ¶112. For example, Burnes describes changing an "OK" icon for a parameter to a warning icon of a solid circle for that same parameter. EX2002, ¶112. Burnes does not describe replacing a displayed parameter with a non-displayed parameter, let alone replacing a displayed parameter based on a non-displayed parameter approaching or exceeding a range. EX2002, ¶¶111-112. Thus, a POSITA would not be motivated to combine such a nonexistent feature with Naghavi.

Second, Apple argues that the "combination system, though, does not necessarily display all parameters on a single screen, at least in cases when more parameters are being monitored than there are spaces to display those parameters in the display layout." EX1003 at ¶49; *see also* Pet. 15. But the references never

suggest that their systems have parameters that are not being displayed. EX2002, ¶¶113-114. As explained in Section VIII.A.1, none of the references teach, suggest, or render obvious measuring a parameter but not displaying said parameter. EX2002, ¶113. Indeed, Hochstedler and Naghavi describe the opposite. In Hochstedler, when the system detects a change in the parameters monitored, the system suggests a new layout to accommodate the newly measured parameters and remove the parameters which are no longer monitored. EX1004 at 8:19-25, 8:56-65, Figs. 12, 13; EX2002, ¶114. Moreover, as previously explained, Naghavi has a single, easy-to-use, user-friendly display that includes all the monitored parameters. EX1005, ¶58; EX2002, ¶¶81, 114. Thus, a POSITA would be motivated to update the display dynamically to match the parameters being monitored in an easy-to-use, single display, not hide parameters. EX2002, ¶114. A POSITA would be motivated to use the large displays in Naghavi and Hochstedler to display the monitored parameters to the user. *Id.*, ¶114.

Apple argues that "A POSITA would have recognized that not all parameters must be displayed on a main layout, nor should they crowd a single layout, so long as those parameters that change in severity can be displayed/highlighted to the clinician to enable proper attention and care to be timely provided to the patient." Pet., 15. As explained above, all references describe displaying *all* monitored parameters at the same time. *See supra* Section VIII.A.1. A POSITA would not

have been motivated to hide a measured parameter when the display is designed to show all parameters at once. EX2002, ¶¶113-114. Instead, a clinician would want to see all the information in the single, easy to use display as described in Naghavi. EX2002, ¶114. And each of Hochstedler, Naghavi, and Burnes describe large displays, not displays with limited real estate. EX2002, ¶114. A large, single, easy to use display capable of displaying all monitored parameters achieves the goal of efficiency, without having to hide any monitored parameters. EX2002, ¶114.

Apple also argues that a POSITA would be motivated to make the proposed combination because:

> this implementation is merely the application of known techniques (changing a parameter display responsive to a change in parameter status) by a known system (a multiparameter monitoring and display system) to yield predictable results (a multiparameter monitoring and display system in which the parameter display changes responsive to a parameter change).

Pet., 16. Apple provides this laundry list of reasons under *KSR* without any factual support. A POSITA cannot be motivated to combine features that do not exist in the references. EX2002, ¶116. Features that do not exist cannot be "known." EX2002, ¶116. Moreover, if the features do not exist, a POSITA cannot reach a "predictable result." EX2002, ¶116.

B. Ground 1B Does Not Establish Obviousness

Ground 1B combines four references: Naghavi, Hochstedler, Burnes and Hayashi. Pet., 1. These references do not render Claims 19, 27, 28, 32, 34, 36, 37, 42, and 43 obvious. EX2002, ¶¶117-121.

1. Dependent Claim 19

Apple argues that Hayashi discloses the following limitation recited by Claim 19: "the first and second physiological parameters are determined using an output signal of a light sensitive detector capable of detecting light attenuated by the body tissue." Pet., 47-49. Claim 19 depends from Claim 18. As discussed in Section VII.A.1 above, Naghavi, Hochstedler, and Burnes do not teach, suggest, or render obvious "in the common display area, the display of one of the measured values of the first or second physiological parameters is replaced with the other of the measured values of the first or second physiological parameters automatically based on which is a more critical one of the measured values of the first or second physiological parameters" as required by Claim 18. Apple does not argue that Hayashi discloses this limitation. *See* Pet., 47-49. Thus, for at least the reasons stated above with respect to Claim 1, Apple fails to show that any of the references, alone or in any combination, teach, suggest, or render obvious Claim 19. *See supra* Section VIII.A.1; EX2002, ¶117.

2. Apple Fails To Show That The References Or Their Combination Disclose "The Display Of The Measured Value Of The First Blood Parameter Is Replaced By The Measured Value Of The Second Blood Parameter When The Second Blood Parameter Passes An Alarm Threshold" (Claim 27 And Dependent Claims 32, 34, 36, 37, 42, 43, 44)

Apple argues that the combination of Naghavi, Hochstedler, Burnes, and Hayashi discloses or renders obvious Claim 27. Pet., 49-56. Apple argues that Hayashi describes the following preamble and claim limitations of Claim 27: "determining a plurality of physiological parameters from an output signal of a light sensitive detector capable of detecting light attenuated by the body tissue" [27pre]; "blood parameters" [27a]; "wherein the measured value of the first and second blood parameters are determined using an output signal of a noninvasive light sensitive detector capable of detecting light attenuated by the body tissue" [27d]. Pet., 47-49. But Apple does not argue that Hayashi discloses the following limitation: "the display of the measured value of the first blood parameter is replaced by the measured value of the second blood parameter when the second blood parameter passes an alarm threshold." Thus, for at least this reason and the reasons stated above with respect to Claim 1, Apple fails to show that any of the references, alone or in any combination, teach, suggest, or render obvious Claim 27. *See supra* Section VII.A.1; EX2002, ¶118.

3. Apple Fails To Show That The References Or Their Combination Disclose "The Display Also Changes From Displaying The Measured Value Of The First Blood Parameter To Displaying The Measured Value Of The Second Blood Parameter When The Second Blood Parameter Passes An Alarm Threshold" (Claim 28)

Apple argues the combination of Naghavi, Hochstedler, Burnes, and Hayashi discloses or renders obvious Claim 28. Pet., 56-59. Apple argues that Hayashi describes the following preamble and limitations in Claim 28: "determining a plurality of physiological parameters from an output signal of a light sensitive detector capable of detecting light attenuated by the body tissue" [28pre]; "blood parameters" [28a]; and "wherein the measured value of the first and second blood parameters are determined using an output signal of a noninvasive light sensitive detector capable of detecting light attenuated by the body tissue" [28d]. Pet., 56-59. But Apple does not argue that Hayashi discloses "the display of the measured value of the first blood parameter is replaced by the measured value of the second blood parameter when the second blood parameter passes an alarm threshold." Thus, for at least this reason and the reasons stated above with respect to Claim 1, Apple fails to show that any of the references, alone or in any combination, disclose or render obvious Claim 28. *See supra* Section VIII.A.1; EX2002, ¶119.

4. Apple Fails To Show That Hochstedler Discloses "Measured Value" As Construed By Apple In The Delaware Litigation (Claims 27, 28 And Dependent Claims 19, 32, 34, 36, 37, 42, 43)

As discussed above, Hochstedler does not disclose displaying "a measured value," consistent with Apple's proposed construction in the Delaware Litigation, which requires an "actual numeric value of a measurement." *See Section* VIII.A.7. Apple does not argue that Hayashi supplies this claim limitation. See Pet., 43-68; EX2002, ¶120. Thus, for at least the reasons discussed above for Claim 1, the figures in Hochstedler that Apple relies upon do not display a "measured value" under Apple's proposed construction in the Delaware Litigation. *See Section* VIII.A.7; *see also* EX2002, ¶120.

5. A POSITA Would Not Be Motivated To Combine Naghavi, Hochstedler, Burnes, and Hayashi

As explained above, Apple fails to show that a POSITA would have been motivated to combine Naghavi, Hochstedler, and Burnes. *See supra* Section VIII.A.1. Apple proposes combining Hayashi with Naghavi, Hochstedler, and Burnes to address noninvasive measurements. Pet., 44-68; EX2002, ¶121. Apple does not argue that adding Hayashi provides an additional motivation to combine Naghavi, Hochstedler, and Burnes. *See* Pet., 44-46; EX2002, ¶121. Thus, for at least the reasons a POSITA would not combine Naghavi, Hochstedler, and Burnes, a POSITA also would not be motivated to combine Naghavi, Hochstedler, Burnes, and Hayashi. EX2002, ¶121.

C. Ground 1C Does Not Establish Obviousness

Apple argues that Claims 42-44 are obvious over the combination of Naghavi, Hochstedler, Burnes, Hayashi, and Mortz.[3] Pet., 72-75. Claims 42-44 depend from Claim 27. Apple argues that Mortz discloses the limitations in Claims 42-44. Pet., 56-59. But Apple does not even address whether Mortz discloses limitations from independent Claim 27, namely "the display of the measured value of the first blood parameter is replaced by the measured value of the second blood parameter when the second blood parameter passes an alarm threshold." Thus, for at least the reasons stated above in Sections VIII.A-VIII.B, Apple fails to show that any of Naghavi, Hochstedler, Burnes, Hayashi, and Mortz, alone or in any combination, teach, suggest, or render obvious the limitations of Claims 42-44. *See supra* Section VIII.A.1; EX2002, ¶122-124.

IX. RESERVATION OF RIGHTS

Should the Board decide to institute an *inter partes* review, Masimo reserves all rights to make additional arguments in and present claim constructions and evidence with its Patent Owner Response. Masimo's silence on any particular claim or limitation at this time is not a concession that the Petition's discussion of that

[3] Although Apple lists Claim 32 in its heading for Ground 1C (Pet., 69) and in the Table of Contents for Ground 1C (*id.*, i), Apple does not address Claim 32 in its Petition under Ground 1C. *See id.*, 69-75. Masimo, therefore, understands that Apple is not arguing that Claim 32 is obvious under Ground 1C.

claim or limitation is properly based. Masimo also reserves the right to dispute the level of ordinary skill in the art if the Board decides to institute *inter partes* review. Accordingly, Masimo reserves the right to submit additional or alternative arguments of patentability, and nothing in this Preliminary Response acts or should be construed to act as an admission, acquiescence, or estoppel on the merits of the Petition.

X. CONCLUSION

As explained above, the Petition is facially deficient and Masimo respectfully requests that the Board deny institution.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 28, 2024

/*Brian C. Claassen*/
Brian C. Claassen (Reg. No. 63,051)
Customer No. 20,995

Attorney for Patent Owner
Masimo Corporation

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), Counsel for Patent Owner Masimo Corporation hereby certifies that this document complies with the type-volume limitation of 37 C.F.R. § 42.24(b). According to Microsoft Office Word 2010's word count, this document contains approximately 11,452 words, including any statement of material facts to be admitted or denied in support, and excluding the table of contents, table of authorities, mandatory notices under § 42.8, exhibit list, certificate of service or word count, or appendix of exhibits or claim listing.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: March 28, 2024

/*Brian C. Claassen*/
Brian C. Claassen (Reg. No. 63,051)
Customer No. 20,995

Attorney for Patent Owner
Masimo Corporation

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. § 42.6(e) and with the agreement of counsel for Petitioner, a true and correct copy of **PATENT OWNER PRELIMINARY RESPONSE AND EXHIBITS 2001-2037** is being served electronically on March 28, 2024, to the e-mail addresses shown below:

W. Karl Renner, Reg. No. 41,265 Fish & Richardson P.C. 60 South Sixth Street Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 Email: IPR50095-0132IP2@fr.com	Andrew B. Patrick, Reg. No. 63,471 Grace Kim, Reg. No. 71,977 Gretchen DeVries, Reg. No. 72,505 Fish & Richardson P.C. 60 South Sixth Street Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 IPR50095-0132IP2@fr.com

Dated: March 28, 2024

/*Brian C. Claassen*/
Brian C. Claassen (Reg. No. 63,051)

Attorney for Patent Owner
Masimo Corporation