

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMAZON.COM SERVICES LLC,

Petitioner,

v.

SMART SPEAKER LLC,

Patent Owner.

Patent No. 11,128,710

Filing Date: July 23, 2017

Issue Date: September 21, 2021

Inventors: Yehuda Binder and Benjamin Maytal

Title: SYSTEM AND METHOD FOR SERVER-BASED CONTROL

PATENT OWNER'S RESPONSE

Case No. IPR2026-00145

TABLE OF CONTENTS

	<u>Page(s)</u>
I. INTRODUCTION	1
II. THE '710 PATENT	3
III. THE CITED PRIOR ART	5
A. Williams (EX1004)	5
B. Howard (EX1005)	6
C. Doherty (EX1006)	6
D. Wittenberg (EX1007)	7
E. Gruber (EX1008)	7
F. Benesty (EX1009)	8
G. Goldsmith (EX1035)	8
H. Chatterjee (EX1011)	9
I. Rosenberger (EX1012)	9
J. Rossing (EX1013)	9
IV. LEVEL OF ORDINARY SKILL IN THE ART	10
V. CLAIM CONSTRUCTION	10
VI. PETITIONER HAS NOT PROVEN BY A PREPONDERANCE OF THE EVIDENCE THAT ANY CHALLENGED CLAIM IS UNPATENTABLE	10
A. Grounds 1-8: Petitioner Has Not Shown that Williams Discloses “ <i>sending a second message, by the server to the controlled device over the Internet</i> ” and “ <i>receiving, by the controlled device via the wireless network, the second message</i> ” (Elements 1[L], 1[M]), or “ <i>operating a second actuator in the controlled device in response to the received second message</i> ” (Element 1[N])	12

1.	Williams’s “services 218” Are the Delivery of Informational Content, Not the Claimed “ <i>second message</i> ”	12
2.	Paragraph [0051] Is Aspirational and Discloses No Server-Generated Control “ <i>message</i> ”	14
3.	The Petition’s Reliance on References Outside Ground 1, and on Expert Inference, Cannot Carry Petitioner’s Burden	15
4.	All Other Grounds Relying on Williams Fail for the Same Reasons	16
B.	Grounds 9-16: Petitioner Has Not Shown that the Howard-Doherty Combination Discloses “ <i>an Internet-connected server device external to the building</i> ” (Element 1[PR][4]) or the “ <i>over the Internet</i> ” Message Limitations (Elements 1[E], 1[F], 1[L], 1[M]).....	17
1.	Howard’s Server 200 Is a Local, In-Home Server, Not a Server “ <i>external to the building</i> ”	18
2.	Doherty Adds a Wireless Router, Not an External Server, and the Petition’s Relocation Rationale Rests on References Outside Ground 9 and on Hindsight	19
3.	Because Howard’s Server Is Local, All of the “ <i>over the Internet</i> ” Limitations Fail	21
4.	All Other Grounds Relying on the Howard-Doherty Combination Fail for the Same Reasons.....	22
5.	Ground 9 Does Not Disclose The Limitations of Claims 27 or 29	23
C.	Grounds 2 and 10 Do Not Show that Claim 2 Is Unpatentable	23
D.	Grounds 3 and 11 Do Not Show that Claims 3–4 and 10–11 Are Unpatentable.....	25

1.	The Petition Does Not Show that “ <i>the first message is sent by the server in response to the sensor data,</i> ” as Claim 3 Requires.....	25
2.	Claim 4’s Sensor Types Come from Fraden which is a Reference Outside Both Grounds	26
3.	Ground 3’s Showing for Claims 10–11 Rests on POSITA Assertion and Four More References Outside the Ground, Not on Gruber	28
E.	Grounds 4 and 12 Do Not Show that Claims 7–8 Are Unpatentable.....	29
F.	Grounds 5 and 13 Do Not Show that Claims 12–15 Are Unpatentable.....	31
1.	Goldsmith’s Protocol Survey Does Not Disclose the Configured Claimed System, and Claim 12’s Internet Link Comes from Five References Outside the Grounds.....	31
2.	The Remaining Claims Fare No Better, and the “Obvious to Try” Assertion Is Unsupported	32
G.	Grounds 6 and 14 Do Not Show Claims 17–22 Are Unpatentable.....	34
H.	Grounds 7 and 15 Do Not Show that Claims 24–25 Are Unpatentable.....	36
I.	Grounds 8 and 16 Do Not Show that Claims 9 and 26–28 Are Unpatentable.....	37
VII.	CONCLUSION.....	40

TABLE OF AUTHORITIES

Page(s)

Cases

<i>Apple, Inc. v. Contentguard Holdings, Inc.</i> , IPR2015-00355, Paper 9 (P.T.A.B. June 26, 2015)	11
<i>Broadcom Corp. v. Emulex Corp.</i> , 732 F.3d 1325 (Fed. Cir. 2013)	12
<i>Innogenetics, N.V. v. Abbott Lab'ys</i> , 512 F.3d 1363 (Fed. Cir. 2008)	21
<i>KSR Int'l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007)	11, 33, 34
<i>Los Angeles Biomedical Rsch. Inst. at Harbor-UCLA Med. Ctr.</i> <i>v. Eli Lilly & Co.</i> , 849 F.3d 1049 (Fed. Cir. 2017)	11
<i>In re Magnum Oil Tools Int'l, Ltd.</i> , 829 F.3d 1364 (Fed. Cir. 2016)	<i>passim</i>
<i>Pers. Web Techs., LLC v. Apple, Inc.</i> , 848 F.3d 987 (Fed. Cir. 2017)	11, 24, 30
<i>Stratoflex, Inc. v. Aeroquip Corp.</i> , 713 F.2d 1530 (Fed. Cir. 1983)	11
<i>In re Van Os</i> , 844 F.3d 1359 (Fed. Cir. 2017)	<i>passim</i>

Statutes

35 U.S.C. § 312(a)(3)	33
35 U.S.C. § 316(e)	10

Other Authorities

37 C.F.R. § 42.104(b)(4)	<i>passim</i>
--------------------------------	---------------

LIST OF EXHIBITS

Exhibit No.	Description of Document
2001	Plaintiff's Disclosure of Asserted Claims and Infringement Contentions in <i>Smart Speaker LLC v. Amazon.com Servs. LLC</i> , Case No. 2:25-cv-00707-JRG (E.D. Tex.), dated September 16, 2025
2002	Defendant's Invalidity and Subject Matter Eligibility Contentions in <i>Smart Speaker LLC v. Amazon.com Servs. LLC</i> , Case No. 2:25-cv-00707-JRG (E.D. Tex.), dated December 9, 2025
2003	Federal Register, Vol. 90, No. 199, dated Friday, October 17, 2025
2004	Second Amended Docket Control Order (Dkt. 33) in <i>Smart Speaker LLC v. Amazon.com Servs. LLC</i> , Case No. 2:25-cv-00707-JRG (E.D. Tex.), dated October 29, 2025
2005	Letter to Amazon.com, Inc. re May Patents Ltd. Patent Portfolio, dated July 23, 2024
2006	Appeal Statistics, Patent Trial and Appeal Board, dated October 31, 2025
2007	Patent Trial and Appeals Board (PTAB) data at a glance December 2025
2008	Declaration of Dr. Michael Shamos

I. INTRODUCTION

On November 21, 2025, Amazon.com Services LLC (“Petitioner”) filed a petition (Paper 2, “Petition” or “Pet.”) for *inter partes* review of U.S. Patent No. 11,128,710 (EX1001, the “’710 Patent”), challenging Claims 1–29 (the “Challenged Claims”) as obvious across sixteen grounds resting on two prior-art foundations: Williams (EX1004) for Grounds 1–8, and the combination of Howard (EX1005) and Doherty (EX1006) for Grounds 9–16. Trial has been instituted on all grounds. Patent Owner Smart Speaker LLC (“Patent Owner”) submits this Response, supported by the Declaration of Dr. Michael Shamos (Ex. 2008), and respectfully requests that the Board issue a final written decision confirming the patentability of all Challenged Claims.

First, Grounds 1–8 rely on Williams as the primary reference, but Williams does not disclose the claimed “*second message*.” Williams’s “services 218” are the delivery of informational content—*e.g.*, ordering groceries, identifying songs, or answering questions—not a server-generated “*second message*” sent to a “*controlled device*” that causes “*operating a second actuator in the controlled device in response to the received second message*.” Williams’s sole mention of device control, in a single aspirational sentence of paragraph [0051], does not actually disclose any server-to-device messaging path or function. And the Petition concedes the gap by reaching to three references outside Ground 1 to supply the concept of a control

“*message*,” converting what is presented as a single-reference obviousness ground into a four-reference combination that remains deficient in any event. Ex. 2008, ¶¶ 40, 44, 47-51.

Second, Grounds 9–16 rely on the Howard-Doherty combination, but Howard’s server 200 is a local, in-home server “forming part of the home gateway” (EX1005, 3:41–48), and every figure and workflow in Howard places the server inside the home, with device control traveling over the local “home network 304”—not “*over the Internet*” to a server “*external to the building*” as Claim 1 requires. Doherty adds a consumer wireless router; it provides no basis for relocating Howard’s server to the cloud. The Petition’s motivation for that relocation rests on Wittenberg (EX1007)—and, through its supporting citations, on Williams (EX1004) and Gruber (EX1008) as well—references outside Ground 9 that in any event address remote *speech processing*, not moving a device-control server out of the home. Ex. 2008, ¶¶ 53-60.

Third, the grounds directed to the dependent claims, Grounds 2–8 and 10–16, each fail for additional and independent reasons. None of the **seven** secondary references is cited for or remedies the defects of the two grounds directed at the independent Claim 1. Further, the dependent-claim grounds add defects of their own. The Petition repeatedly reaches outside its stated grounds to purportedly supply claimed elements—*e.g.*, the claimed sensor types from Fraden, the claimed device

addresses from Doherty, Roberts, Yadav, and Shimonski, a Bluetooth path to the Internet from Tran, Johnson, Ji, and Lim, and cellular-connected home appliances from Wang. Additionally, the motivations to combine are merely generic assertions, *e.g.*, “obvious to try,” “expand the capabilities,” “improve the usability,” without the articulated, reference-grounded reasoning the law requires. And several of the mappings do not address the actual claim language at all, *e.g.*, Claim 3’s requirement that “*the first message is sent by the server in response to the sensor data,*” and Claim 24’s requirement that the claimed light source operate “*in response to the received first message,*” etc. Ex. 2008, ¶¶ 65, 72.

As every ground rests on one of these two defective foundations, because the missing limitations are common to every Challenged Claim, and because the grounds directed to the dependent claims independently fail, Petitioner has not proven that any Challenged Claim is unpatentable.

II. THE ’710 PATENT

The ’710 Patent, titled “System and Method for Server-Based Control,” issued on September 21, 2021, from an application filed on July 23, 2017, and claims priority to a provisional application filed on January 9, 2012, which Petitioner treats as the earliest effective filing date only for purposes of this proceeding. Pet. at 3. Independent Claim 1 recites “[a] *method for operating multiple actuators in response to captured human voice data,*” for use with a “*client device*” and a

“*controlled device*” in a building, each communicating over a wireless network, and for use with “*an Internet-connected server device external to the building.*” ’710 Patent, Claim 1; Ex. 2008, ¶¶ 26–27.

Claim 1’s body recites two parallel voice-command sequences. In the first, the client device captures “*a first human voice data*” and sends it to the server via the wireless network; the server receives it “*over the Internet*” and processes it; and, “*responsive to the processing,*” the server sends “*a first message*” to the client device over the Internet, which the client device receives and to which it responds by “*operating a first actuator in the client device.*” In the second, the client device captures “*a second human voice data*” and sends it to the server, which receives and processes it; “*responsive to the processing,*” the server sends “*a second message*” “*to the controlled device over the Internet*”; the controlled device receives the second message via the wireless network; and the method concludes with “*operating a second actuator in the controlled device in response to the received second message.*” ’710 Patent, Claim 1. In each sequence, the claimed “message” is generated by the server in response to its processing of captured voice data, and the message is what causes the receiving device to operate its actuator; in the second sequence, the server’s message is directed to a different device than the one that captured the command. Ex. 2008, ¶¶ 27-30.

The specification describes this networked control architecture. As the Petition acknowledges, the specification describes “a router,” a first device in the building “operative to transmit a digital data corresponding to the sensed voice to the router,” and a second device that “may be operative to execute actuator commands received from the router,” with a “control server” “operative to produce actuator commands in response to” a voice processor output; FIG. 19 depicts a flow chart of a “controller involving voice processing.” Pet. at 3 (quoting ’710 Patent, 32:25–38, 32:57–33:13, 55:64–65). The specification also identifies a display as an exemplary actuator: “[a]n actuator may be a display for presentation of visual data or information, commonly on a screen.” ’710 Patent, 25:33–38. Ex. 2008, ¶ 31.

III. THE CITED PRIOR ART

A. Williams (EX1004)

Williams describes an audio-based system for a home in which an interface device 116 captures audio and conveys audio-based information over a network 114, which “may thus include” the Internet, to an application engine 118 and cloud-based applications 120 that may be implemented by a server 400. EX1004, [0015], [0021]–[0022], [0052]. The applications “may use the information from the event notifications 216 to initiate or customize services 218 on behalf of users,” and “[s]uch services may be provided through any of the media devices 106 located in the home, as well as through other application devices 220.” *Id.*, [0036]. Williams’s

examples of services 218 are the provision of information or content to the user—*e.g.*, interpreting a spoken grocery order, identifying a song and offering related content, or answering a question such as “What’s the recipe for deviled eggs?” *Id.*, [0044]–[0050]. Williams’s only reference to controlling devices is the single sentence pair of paragraph [0051], discussed below, and Williams does not disclose how that potential control is accomplished. Ex. 2008, ¶¶ 32-35.

B. Howard (EX1005)

Howard describes “a portable device for communicating with a computer server, especially a home server, which provides for and/or controls various activities in a home.” EX1005, 1:7–14. Howard’s server 200 “form[s] part of the home gateway” and sits between two distinct pathways shown in FIG. 6: the “home network 304,” over which the server controls household appliances, and “the Internet 305,” to which “the server 200 is also coupled . . . via any suitable connection” for reaching outside resources such as “a shopping website, or a website for running a searching engine.” *Id.*, 3:41–48, 8:40–55, 9:50–56, FIG. 6. In Howard’s workflows, device commands are processed by the server, which “generates control signals, which are transmitted to the VCR via the home network 304.” *Id.*, 10:64–11:5. Ex. 2008, ¶¶ 36-38.

C. Doherty (EX1006)

Doherty is a Cisco Press consumer textbook, “Wireless Home Networking

Simplified,” that teaches readers to set up home wireless networks with commercially available equipment. Doherty teaches that, in a home wireless LAN, “the computer can send and receive information to and from other computers on the LAN or to and from the Internet by transmitting over wireless to the wireless router (or access point),” and that “[t]he wireless router acts as the central communication routing point.” EX1006, 11. Doherty describes no remote server, nor relocation of any in-home server, for controlling home devices. Ex. 2008, ¶ 39.

D. Wittenberg (EX1007)

Wittenberg, U.S. Patent No. 7,529,677, is cited only in Grounds 2 and 10, against dependent Claim 2. Pet. at 6–7. According to the Petition, Wittenberg’s remote processor “analyzes audio signals received at the remote processor to determine whether the person issuing the voice command is authorized to issue the command” by “comparing the characteristics (*e.g.*, frequency spectrum, speech patterns, etc.) of the audio signal to stored voice information.” Pet. at 37–38 (quoting EX1007, 5:61-6:6). Wittenberg thus adds an authorization check to voice-command processing.

E. Gruber (EX1008)

Gruber, U.S. Patent Pub. No. 2012/0265528, is cited in Ground 3 against dependent Claims 3–4 and 10–11 and in Ground 11 against dependent Claims 3–4. Pet. at 6–7. Gruber describes a virtual assistant that “uses context information to

supplement natural language or gestural input from a user.” EX1008, Abstract. Gruber’s example sources of context include device sensors and “signatures of connected networks,” such as “MAC addresses of network access points.” *Id.*, [0218]–[0225]. In Gruber, context serves the interpretation of the user’s input.

F. Benesty (EX1009)

Benesty, which includes excerpts of the *Springer Handbook of Speech Processing*, is cited in Grounds 4 and 12, against dependent Claims 7–8. Pet. at 6–7. The Petition quotes Benesty’s survey observations that “microphone arrays have the ability to offer directional gains that can significantly improve the quality of signal pickup in reverberant and noisy environments,” and that “beam scanning and time delay estimation (TDE)-based localization methods are the two most widely used approaches” for “speech source localization.” Pet. at 44–45 (quoting EX1009, 1021, 1044).

G. Goldsmith (EX1035)

Goldsmith, which includes excerpts of the textbook *Wireless Communications*, is cited in Ground 5 against dependent Claims 12–15 and Ground 13 against dependent Claims 12 and 14–15. Pet. at 6–7. The Petition quotes Goldsmith’s survey of wireless protocols, stating that the Bluetooth and Zigbee specifications are “designed to be compliant with the IEEE 802.15 standards,” and its descriptions of the 802.11 family, the ISM bands, and cellular standards. Pet. at

46–51 (quoting EX1035, 601-602).

H. Chatterjee (EX1011)

Chatterjee, U.S. Patent Pub. No. 2013/0052946, is cited in Ground 6 against dependent Claims 17–22 and in Ground 14 against dependent Claim 22. Pet. at 6–7. Chatterjee describes “a system and method for providing home automation using a mobile device,” in which household appliances, *e.g.*, ovens, dishwashers, refrigerators, HVAC, are controlled via a device controller integrated into the appliance devices and directed from the user’s mobile device. Pet. at 51–52 (quoting EX1011, Abstract).

I. Rosenberger (EX1012)

Rosenberger, U.S. Patent No. 8,340,975, is cited in Grounds 7 and 15 against dependent Claims 24–25. Pet. at 6–7. Rosenberger concerns “speech-recognizing control devices that respond to oral commands from a system user to produce a desired effect or result,” where the device itself recognizes a trigger phrase and command against “a known vocabulary or grammar stored in the speech pattern memory 14,” and its “multi-colored LED status light 34” indicates the device’s states and modes. Pet. at 54–56 (quoting EX1012, 1:7-13, 8:8-16, 8:20-32).

J. Rossing (EX1013)

Rossing, which includes excerpts of the *Springer Handbook of Acoustics*, is cited in Grounds 8 and 16 against dependent Claims 9 and 26–28. Pet. at 6–7. The

Petition draws from Rossing the physics of microphones and loudspeakers. Pet. at 57–59 (quoting EX1013, 757–759, 763).

IV. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner proposes that a POSITA “would have a bachelor’s degree in electrical engineering, computer engineering, or equivalent, and two years of experience working on remote device control and/or networked devices,” and that “[a]n advanced graduate degree may make up for the work experience indicated above.” Pet. at 4 (citing EX1002, ¶¶ 47–49). For purposes of this Response, Patent Owner applies Petitioner’s definition. Dr. Shamos likewise applies Petitioner’s definition. Ex. 2008, ¶¶ 23-24.

V. CLAIM CONSTRUCTION

Petitioner contends that no claim construction is necessary and claim terms carry their plain and ordinary meaning. Pet. at 5. Patent Owner agrees that the Board need not construe any term to resolve this proceeding because, as demonstrated below, the Petition fails under any reasonable interpretation of the claims, including Petitioner’s own reading.

VI. PETITIONER HAS NOT PROVEN BY A PREPONDERANCE OF THE EVIDENCE THAT ANY CHALLENGED CLAIM IS UNPATENTABLE

In an instituted *inter partes* review, “the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.” 35

U.S.C. § 316(e). “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) so-called secondary considerations where in evidence. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1537 (Fed. Cir. 1983). The Board has held that a failure to identify the differences between the claimed subject matter and the prior art is fatal to an obviousness challenge. *See Apple, Inc. v. Contentguard Holdings, Inc.*, IPR2015-00355, Paper 9 at 9–10 (P.T.A.B. June 26, 2015). The Board must sufficiently explain and support the conclusions that the prior-art references disclose all the elements recited in the challenged claims and that a skilled artisan not only could have made, but would have been motivated to make, the combination in the way the patent claims, with a reasonable expectation of success. *Pers. Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017); *Los Angeles Biomedical Rsch. Inst. at Harbor-UCLA Med. Ctr. v. Eli Lilly & Co.*, 849 F.3d 1049, 1067 (Fed. Cir. 2017).

The combinability determination requires a plausible rationale as to why the prior-art references would have worked together. *Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1335 (Fed. Cir. 2013). Absent some articulated rationale, a “common sense” finding is no different than a mere conclusory statement that a combination “would have been obvious.” *In re Van Os*, 844 F.3d 1359, 1361 (Fed. Cir. 2017).

A. Grounds 1-8: Petitioner Has Not Shown that Williams Discloses “*sending a second message, by the server to the controlled device over the Internet*” and “*receiving, by the controlled device via the wireless network, the second message*” (Elements 1[L], 1[M]), or “*operating a second actuator in the controlled device in response to the received second message*” (Element 1[N])

Claim 1 requires that, “*responsive to the processing*” of the “*captured second human voice data*,” the server send a “*second message*” “*to the controlled device over the Internet*”; that the controlled device receive that message “*via the wireless network*”; and that the controlled device operate “*a second actuator . . . in response to the received second message*.” ’710 Patent, Claim 1; *see* Pet. at 29, 33. These limitations require a distinct, server-generated “*message*,” directed to the controlled device, that causes the operation of an actuator in that device. Williams does not disclose any such message. Ex. 2008, ¶¶ 47-52.

1. Williams’s “services 218” Are the Delivery of Informational Content, Not the Claimed “*second message*”

The Petition’s mapping rests on Williams’s disclosure that the server’s

applications “may use the information from the event notifications 216 to initiate or customize services 218” and that “[s]uch services may be provided through any of the media devices 106 located in the home, as well as through other application devices 220.” Pet. at 29–30 (quoting EX1004, [0036]). But in Williams, “services 218” are the substance of the service itself—content delivered to and experienced by the user—not “*messages*” sent to a “*controlled device*” to operate an actuator there. Williams’s own examples confirm as much: interpreting a spoken grocery order and submitting it to a store or recording “a shopping list that the user can view on their smartphone” (EX1004, [0044]); identifying a song and “provid[ing] information about related articles, offer[ing] samples, suggest[ing] related music and playlists, or present[ing] information allowing the user to purchase individual music tracks” (*id.*, [0047]); and answering questions by “emailing or otherwise providing a recipe” (*id.*, [0048]). *See id.*, [0044]–[0050]. In each instance, what the system delivers is information content, and nothing in these disclosures involves “*operating a second actuator in the controlled device in response to the received second message.*” Ex. 2008, ¶ 48.

FIG. 2 confirms the deficiency. Its arrows from applications 120 to media devices 106 and application devices 220 depict the general availability of services through home devices—the user experiences the service via a particular device—not a control message generated in response to a voice command, addressed to a

particular controlled device, and which causes that device to operate an actuator. EX1004, [0036], FIG. 2; Ex. 2008, ¶ 48. Williams simply does not disclose any data object, communication, or signal satisfying the claimed “*second message*.”

2. Paragraph [0051] Is Aspirational and Discloses No Server-Generated Control “*message*”

The Petition asserts that “Williams discloses human voice commands that can effectuate remote device control,” resting on paragraph [0051] as the sole purported support. Pet. at 26; *see id.* at 28, 33. Paragraph [0051], however, merely states that an application “might also be designed to allow a user to control various on-premises devices and equipment” and “may accept spoken commands from a user regarding on-premises devices, and may respond by interacting with such devices through available network connections.” EX1004, [0051]. That passage tells the reader **what** the system might do—*i.e.*, accept voice commands and interact with devices—but says nothing about **how**. It is silent on whether the server generates any control “*message*,” how it would reach a specific controlled device, or what actuation would result. Yet those are precisely the elements Claim 1 requires: a “*second message*” generated by the server “*responsive to the processing*” of “*captured second human voice data*” and sent by the server “*to the controlled device over the Internet*.” Ex. 2008, ¶¶ 50-51.

A statement that a system “may respond by interacting with such devices through available network connections” identifies no message and provides nothing of the specific server-to-controlled-device communication that Claim 1 requires. And the only device interaction Williams actually describes is the provision of “services 218” that, as discussed above, comprise informational content and not “*messages*.” Ex. 2008, ¶ 48-50.

3. The Petition’s Reliance on References Outside Ground 1, and on Expert Inference, Cannot Carry Petitioner’s Burden

The Petition’s own mapping confirms that Williams alone does not disclose the claimed “*second message*.” To bridge the gap between Williams’s “services 218” and an actual control “*message*,” the Petition inserts the parenthetical “(e.g., a control message)” and asserts that sending such a message would be “consistent with common implementations,” citing three references **outside** Ground 1, specifically, Van der Meulen (EX1018, 3:19–22), Wittenberg (EX1007, Claim 1), and Chatterjee (EX1011, [0012]). Pet. at 31–32. Dr. Houh’s Declaration does the same. His opinion that “some information (e.g., a control message related to the service 218) is sent to the controlled device” rests on what “was common knowledge” and on Van der Meulen’s coffee-maker control signal—not on any disclosure of Williams. EX1002, ¶¶ 142, 148 (quoting EX1018, 3:19–22); Ex. 2008, ¶ 49.

Ground 1, however, is Williams alone. Petitioner may not supply a missing limitation from references outside the ground and the Board may not adopt a multi-reference theory that Petitioner did not raise. 37 C.F.R. § 42.104(b)(4); July 31, 2025 Stewart Memorandum; *Magnum Oil*, 829 F.3d at 1380-81. Nor can generalized “common knowledge” or expert say-so substitute for the required disclosure. *Id.* at 1380. As framed, Ground 1 is ultimately a four-reference obviousness combination disguised as a single-reference § 103 ground—and even taken on its own terms it fails, because none of the three outside references is asserted, much less shown, to disclose the claimed “*second message*” obvious in combination with Williams. Simply offering the additional secondary reference for purported “common implementations” is insufficient for purposes of an obviousness ground. Pet. at 31–32. On this record, Petitioner has not shown that Williams discloses—or that Ground 1 renders obvious—at least elements 1[L], 1[M], and 1[N].

4. All Other Grounds Relying on Williams Fail for the Same Reasons

Claims 5–6, 16, 23, and 29 are challenged in Ground 1 alongside Claim 1, and each incorporates all of Claim 1’s limitations. Because Petitioner has not shown that Williams discloses at least the “*second message*” limitations of Claim 1, Ground 1 fails as to every claim it challenges. Grounds 2–8 rely on Williams in combination with, respectively, Wittenberg, Gruber, Benesty, Goldsmith, Chatterjee,

Rosenberger, and Rossing, to challenge dependent claims. Pet. at 37–60. None of those secondary references is cited for, or remedies, Williams’s failure to disclose the “*second message*” limitations of independent Claim 1. Ex. 2008, ¶ 52. Grounds 1–8 therefore fail in their entirety.

In sum, Williams’s “services 218” are informational content, not the claimed “*second message*”; paragraph [0051] is aspirational and discloses no server-to-controlled-device control “*message*”; and the Petition’s resort to three references outside Ground 1—echoed by its expert’s reliance on purported “common knowledge”—confirms the gaps those additional references cannot fill. Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 1–8 is unpatentable. The additional, ground-specific defects of Grounds 2–8 are addressed in Sections VI.C through VI.I, below.

B. Grounds 9-16: Petitioner Has Not Shown that the Howard-Doherty Combination Discloses “*an Internet-connected server device external to the building*” (Element 1[PR][4]) or the “*over the Internet*” Message Limitations (Elements 1[E], 1[F], 1[L], 1[M])

Claim 1 requires “*an Internet-connected server device external to the building,*” and it requires that the server’s “*first message*” and “*second message*” each be sent “*over the Internet*” and received by the client and controlled devices “*via the wireless network.*” ’710 Patent, Claim 1; see Pet. at 16, 22, 29. These limitations are connected: the messages travel “*over the Internet*” only if the server

sits “*external*” to the building—if the server is inside the home, its communications with the home devices do not traverse the Internet. The Howard-Doherty combination discloses none of these limitations because Howard’s server 200 is a local, in-home server and neither reference provides any basis for relocating that server to the cloud. Ex. 2008, ¶¶ 53-60.

1. Howard’s Server 200 Is a Local, In-Home Server, Not a Server “*external to the building*”

Howard describes its server 200 as “forming part of the home gateway.” EX1005, 3:41–48. Howard’s disclosure “relates . . . to a portable device for communicating with a computer server, especially a **home** server, which provides for and/or controls various activities in a home,” and the portable device “allows the operator to program and control the home gateway from essentially any area of the home,” *id.*, 1:7–14, 1:55–58 (emphasis added). FIG. 6 places server 200 between two distinct pathways: “home network 304,” through which the server controls household appliances, and “the Internet 305,” through which the server reaches external resources such as “a shopping website, or a website for running a searching engine.” *Id.*, 8:40–55, 9:50–56, FIG. 6. Every device-control example transmits control signals over the local network—*e.g.*, the server “generates control signals, which are transmitted to the VCR via the home network 304.” *Id.*, 10:64–11:5; *see also id.*, 11:20–12:14 (FIG. 9 television workflow). In Howard, the Internet is the

path to the outside world, while the home network is the path to the controlled devices inside the home. Ex. 2008, ¶ 54.

The Petition concedes that “Howard mentions ‘home server’ in some instances,” and argues only that “Howard does not limit its system to a server at the user’s home.” Pet. at 79 (citing EX1002, ¶ 359). But that is not the obviousness inquiry. The question is not whether Howard **limits** its server to the home—it is whether Howard actually **discloses or suggests** a server external to the building used to control devices in the home with messages. It does not. The absence of an express limitation is not a disclosure, and the silence in Howard’s disclosures does not otherwise provide any suggestion to a POSITA. Ex. 2008, ¶ 55.

2. Doherty Adds a Wireless Router, Not an External Server, and the Petition’s Relocation Rationale Rests on References Outside Ground 9 and on Hindsight

The Petition argues that a POSITA “would have been motivated to combine Howard with Doherty such that (1) its portable device and home appliances and other devices can communicate with a wireless network via a wireless router, and (2) its server 200 is a cloud server accessible via the Internet outside the user’s home.” Pet. at 75–76 (citing EX1002, ¶ 351). Patent Owner does not dispute that Doherty teaches that devices can communicate wirelessly through a router, which “acts as the central communication routing point.” EX1006, 11. But the second step, which is the actual step that Grounds 9–16 require, finds no support in either

reference. Doherty is a consumer textbook on setting up home wireless networks, and a router is just an intermediary that directs traffic, not a cloud server. And Doherty nowhere suggests moving a home-gateway server off premises, nor does the reference describe any remote-server architecture. Ex. 2008, ¶ 56.

Further, the Petition’s rationale for the server relocation comes from outside Ground 9. The Petition asserts that “the benefits for having a server in the cloud perform resource-intensive tasks such as speech processing were well-known,” quoting Wittenberg: “By performing complex speech and voice recognition processing remotely, the local device can have fewer components, be smaller, use less power, and cost less than a device that performs these operations locally.” Pet. at 77 (quoting EX1007, 8:26–32). The supporting citations reach even further outside the ground to Williams (EX1004, [0022], Figure 2) and Gruber (EX1008, [0080], [0100]–[0102], [0110]–[0117]). *Id.* Wittenberg is a Ground 10 reference, not a Ground 9 reference. Pet. at 102. Relying on references outside the asserted ground to supply the pivotal architectural change is precisely what § 42.104(b)(4) and the Stewart Memorandum prohibit, and the Board may not adopt the unraised multi-reference theory on Petitioner’s behalf. *Magnum Oil*, 829 F.3d at 1380–81.

The rationale also fails on its own terms. The quoted benefit concerns where **speech processing** occurs—not where a device-control server resides—and Howard already places that function locally. Specifically, in Howard, the analysis of the

audio data signals “is assigned to the server 200,” so that “the circuit components and the power requirements of the portable device 10 are minimized.” EX1005, 7:59–65; *see* Pet. at 76–77 (acknowledging the same). Howard, likewise, already contemplates broadband Internet connectivity alongside its local control server. EX1005, 1:18–22, 9:50–52. A POSITA would have had no reason, grounded in these references, to redesign Howard by exporting its control server to the cloud; the proposed modification is driven by the ’710 Patent’s claims, not by the art. Absent an articulated, reference-grounded rationale, the Petition’s “common sense” and “common implementations” assertions are no different than a mere conclusory statement that the combination “would have been obvious.” *In re Van Os*, 844 F.3d at 1361; *see Innogenetics, N.V. v. Abbott Lab’ys*, 512 F.3d 1363, 1373 (Fed. Cir. 2008); Ex. 2008, ¶¶ 57-58.

3. Because Howard’s Server Is Local, All of the “*over the Internet*” Limitations Fail

Because the combination does not disclose a server “*external to the building*,” it necessarily fails each limitation requiring communication between the server and the home devices “*over the Internet*”: the limitations requiring that the server receive the captured first and second human voice data “*over the Internet*” (Elements 1[C], 1[J]), and the limitations requiring that the server send the “*first message*” and the “*second message*” “*over the Internet*” (Elements 1[E], 1[L]). In Howard, the portable

device communicates with the in-home server, and the server sends control signals to the controlled devices through the “home network 304.” EX1005, 3:41–48, 10:64–11:5, FIG. 6. None of those communications traverses the Internet. Ex. 2008, ¶ 59.

4. All Other Grounds Relying on the Howard-Doherty Combination Fail for the Same Reasons

Ground 9 challenges Claims 1, 5–6, 10–11, 13, 16–21, 23, and 29, each of which incorporates the limitations above. Grounds 10–16 rest on the same Howard-Doherty foundation and add one secondary reference each, *e.g.*, Wittenberg, Gruber, Benesty, Goldsmith, Chatterjee, Rosenberger, and/or Rossing, to address dependent-claim features. Pet. at 102–108. None of those references is cited for or remedies, however, the combination’s failure to disclose a server “*external to the building*” or the “*over the Internet*” communications of Claim 1. Ex. 2008, ¶ 60. Grounds 9–16 therefore fail in their entirety. The additional, ground-specific defects of Grounds 10–16 are likewise addressed in Sections VI.C through VI.I, below.

In sum, Howard’s server 200 is an in-home component of the home gateway; device control in Howard travels over the local home network; Doherty adds a wireless router, not an external server; and the Petition’s relocation rationale rests on references outside Ground 9 and on hindsight. Thus, Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 9–16 is

unpatentable.

5. Ground 9 Does Not Disclose The Limitations of Claims 27 or 29

Further, Claim 29 is only challenged in Ground 9. Claim 29 depends from Claim 27, which depends from Claim 1. While the Petition challenges Claim 29 (Pet. at 101), the Petition challenges Claim 27 only in Ground 8. Therefore, the Petition is defective as to Claim 29. The prior art cited for Ground 9 does not disclose the limitations of Claims 27 or 29. EX2008, ¶ 61.

C. Grounds 2 and 10 Do Not Show that Claim 2 Is Unpatentable

Ground 2 challenges Claim 2 over Williams and Wittenberg (EX1007); Ground 10 challenges the same claim over Howard, Doherty, and Wittenberg. Pet. at 37–39, 102–104. Claim 2 depends from Claim 1 and adds that “*the processing comprises performing a voice recognition algorithm for identifying the voice of a specific person.*” ’710 Patent, Claim 2. Claim 2, however, is not further obvious over Wittenberg. EX2008, ¶ 62-64.

Wittenberg does not disclose the limitation Claim 2 adds. The claimed algorithm is “*for identifying the voice of a specific person*”—determining who is speaking. Wittenberg’s voice recognition answers a different question: its function is “to determine whether the audio signal has been supplied by an authorized user.” EX1007, Abstract. The passage the Petition quotes describes the same authorized-

or-not determination, “comparing the characteristics . . . of the audio signal to stored voice information to determine whether the audio signal voice matches that of an authorized user.” Pet. at 37–38 (quoting EX1007, 5:61-6:6). A match at most tells the system that the speaker is one of its authorized users, but it does not identify which specific person is speaking, and Wittenberg discloses no use or output of any speaker’s individual identity. Neither the Petition nor Dr. Houh explains how an authorized-or-not determination disclosed in Wittenberg performs the claimed identification. *Pers. Web Techs.*, 848 F.3d at 994. Ex. 2008, ¶¶ 62-63.

Ground 10’s citation to Howard also fails structurally. Claim 2’s algorithm must be part of “*the processing*”—Claim 1’s “*processing, by the server, the captured first human voice data,*” which the Petition maps to Howard’s data analyzer 202 “interpret[ing] the language fragment.” Pet. at 85. But the voice-print matching Ground 10 cites is a different operation: a payment-authentication step in the activity guide of FIG. 13(a), run only “upon completion of an order that requires payment,” in which the server prompts “Please tell me your name” and task 504 compares the resulting “voice print of the operator, which is forwarded by the portable device 10,” against one “prestored in memory C 303” during initialization. Pet. at 102 (quoting EX1005, 14:59-15:3); EX1005, 14:50-15:3. Authenticating a payment from a separately prompted name utterance is not voice recognition performed as part of processing the captured voice command—and the proposed combination again maps

only Wittenberg’s gate function. Pet. at 102–103. Ex. 2008, ¶ 64.

Further, the proffered motivation—“to achieve greater security”—does not bridge the gap. Pet. at 38, 103–104. On Wittenberg’s own disclosure, security is achieved by the authorization gate itself, so the rationale supplies no reason to build the claimed personal identification. *Magnum Oil*, 829 F.3d at 1380; *In re Van Os*, 844 F.3d at 1361. In sum, Wittenberg determines whether a speaker is authorized, not who the speaker is, and Howard’s payment-time voice-print check sits outside “*the processing*” of the voice command. Thus, Petitioner has not shown by a preponderance of the evidence that Claim 2, challenged in Grounds 2 and 10, is unpatentable.

D. Grounds 3 and 11 Do Not Show that Claims 3–4 and 10–11 Are Unpatentable

Ground 3 challenges Claims 3–4 and 10–11 over Williams and Gruber (EX1008); Ground 11 challenges Claims 3–4 over Howard, Doherty, and Gruber. Pet. at 39–43, 104. Grounds 3 and 11 each fail for the reasons discussed below.

1. The Petition Does Not Show that “*the first message is sent by the server in response to the sensor data,*” as Claim 3 Requires

Claim 3 adds three requirements: the client device “*further comprises a sensor that outputs sensor data that responds to a physical phenomenon*”; the method further comprises “*sending to the server, by the client device via the wireless network, the sensor data*”; and “*the first message is sent by the server in response to*

the sensor data.” ’710 Patent, Claim 3. The Petition addresses the first two requirements and then stops. The Petition states that Gruber discloses that a device “may have one or more sensors” that “can provide sources of contextual information,” and that such context “can be communicated among distributed components, such as client 1304 and server 1340.” Pet. at 39–41 (quoting EX1008, [0218]–[0225], [0366]–[0367]). The proposed combination, in turn, “would capture sensor data (*e.g.*, temperature) using one or more sensors (*e.g.*, as taught by Gruber) in the audio interface device and transmit such data to Williams’s server to supplement audio processing as taught by Williams and/or Gruber.” Pet. at 41–42. Nowhere, however, does the Petition identify any disclosure that the server’s “*first message*”—the message Claim 1 requires be sent “*responsive to the processing*” of the captured voice data—is also sent “*in response to the sensor data.*” In Gruber, sensor-derived context serves “to supplement natural language or gestural input from a user,” to “clarify the user’s intent,” and to “reduce[] the need for the user to provide excessive clarification input”—*i.e.*, to help interpret the user’s command. EX1008, Abstract; *see* Pet. at 42. Assisting interpretation is not a disclosure that the responsive message is sent in response to the sensor data. Ex. 2008, ¶ 65.

2. Claim 4’s Sensor Types Come from Fraden which is a Reference Outside Both Grounds

Claim 4 requires that the sensor be “*a thermoelectric sensor that responds to*

a temperature or to a temperature gradient of an object using conduction, convection, or radiation,” or “a photoelectric sensor that responds to a visible or an invisible light or gamma rays.” ’710 Patent, Claim 4. Gruber’s contribution is a generic list, *i.e.*, “light sensor, thermometer, . . . and the like” providing “the current light level, temperature, and other environmental measures.” Pet. at 42 (quoting EX1008, [0225]); EX1008, [0222]. A “thermometer” is not a disclosure of a “*thermoelectric*” sensor that operates “*using conduction, convection, or radiation,*” and a “light sensor” is not a disclosure of a “*photoelectric*” sensor responsive to “*invisible light or gamma rays.*” To bridge that gap, the Petition offers a single sentence: “A POSITA would have understood that photoelectric sensors are common light sensors and thermoelectric sensors are common temperature sensors.” Pet. at 42. That sentence, however, is not supported by Williams, Howard, Doherty, or Gruber, but by Fraden (EX1029, 116, 466), a reference outside of both grounds. Pet. at 42. Under 37 C.F.R. § 42.104(b)(4) and the Stewart Memorandum, an outside reference and expert say-so may not supply the claimed sensor types, and the Board may not adopt a Williams-Gruber-Fraden (or Howard-Doherty-Gruber-Fraden) combination that the Petition never asserted. *Magnum Oil*, 829 F.3d at 1380-81. Ex. 2008, ¶ 66.

3. Ground 3's Showing for Claims 10–11 Rests on POSITA Assertion and Four More References Outside the Ground, Not on Gruber

Claims 10–11 are challenged over Williams and Gruber in Ground 3 alone. Pet. at 42–43. Claim 10 requires that the client or controlled device be addressable “*using an address stored in a volatile or non-volatile memory of the respective device for uniquely identifying the respective device in the network,*” and Claim 11 specifies MAC-48, EUI-48, or EUI-64 addresses, or static or dynamic IPv4 or IPv6 addresses. ’710 Patent, Claims 10–11. For these limitations, Ground 3 does not rely on what either named reference discloses—it relies on what a POSITA purportedly would have understood: that wireless networking “involves associating each device with a device identifier or address (which is locally stored) that uniquely identifies the device in the network.” Pet. at 42–43. And for the proposition that such addresses were “well-known,” it cites Doherty (EX1006, 99, 108, 166, 210-211, 175, 265, 277), Roberts (EX1028, 127), Yadav (EX1046, 2:50-59), and Shimonski (EX1022, 11, 13)—none of which is a Ground 3 reference, and the first of which is a Ground 9 reference deployed in a Williams ground. Pet. at 43. Thus, here again, the claim elements are supplied, if at all, by Petition’s expert’s purported generalized knowledge and references outside the ground—precisely what 37 C.F.R. § 42.104(b)(4) and the Stewart Memorandum prohibit. *Magnum Oil*, 829 F.3d at 1380-81. Ex. 2008, ¶ 67.

In sum, the Petition does not show Claim 3's sensor-responsive "*first message*"; it supplies Claim 4's sensor types from Fraden; and it supplies Claims 10–11's stored, device-identifying addresses from POSITA assertion and four more references outside the ground. Thus, Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 3 and 11 is unpatentable.

E. Grounds 4 and 12 Do Not Show that Claims 7–8 Are Unpatentable

Ground 4 challenges Claims 7–8 over Williams and Benesty (EX1009); Ground 12 challenges the same claims over Howard, Doherty, and Benesty. Pet. at 44–46, 104–105. Claim 7 depends from Claim 1, and Claim 8 depends from Claim 7. Claim 8 requires that the multiple microphones of Claim 7 be "*arranged as a directional microphones array operative to estimate a number, magnitude, frequency, Direction-Of-Arrival (DOA), distance, or speed of a phenomenon impinging the microphones array.*" '710 Patent, Claim 8. The Petition quotes Benesty's survey statements that "microphone arrays have the ability to offer directional gains that can significantly improve the quality of signal pickup in reverberant and noisy environments," and that "beam scanning and time delay estimation (TDE)-based localization methods are the two most widely used approaches" for "speech source localization." Pet. at 44–45 (quoting EX1009, 1021, 1044). What the Petition does not show is the claimed capability in the proposed

combination: a client device whose array is “*operative to estimate*” the recited parameters. The Petition goes no further than merely placing “multiple microphones as taught by Benesty” in the client device “to capture and process human voice data, yielding the predictable results of effectively improving audio capturing.” Pet. at 45–46; *see id.* at 105 (same for Ground 12). But while capturing voice data with multiple microphones is covered by Claim 7, Claim 8’s estimation capability is neither mapped to the combined system nor explained. The Board must be able to find that the combination discloses all the elements as claimed, and a “predictable results” assertion cannot supply the missing showing. *Pers. Web Techs.*, 848 F.3d at 994; *Magnum Oil*, 829 F.3d at 1380. Ex. 2008, ¶ 68.

The motivation offered, *i.e.*, that a POSITA would have looked to Benesty for techniques “to, for example, improve the audio signal capturing and processing in Williams,” at most describes consulting the handbook, but falls short for providing an actual reason to build the claimed estimating array into Williams’s interface device 116 or Howard’s portable device. Pet. at 44. Benesty surveys certain techniques that existed, but the Petition identifies no design need in Williams or Howard that the claimed directional array would answer, and no reason grounded in the references to select it. *In re Van Os*, 844 F.3d at 1361. In sum, Grounds 4 and 12 inherit the failures of Grounds 1 and 9 and never show Claim 8’s “*operative to estimate*” limitation in the proposed combination. Thus, Petitioner has not proven by

a preponderance of the evidence that either claim challenged in Grounds 4 and 12 is unpatentable.

F. Grounds 5 and 13 Do Not Show that Claims 12–15 Are Unpatentable

Ground 5 challenges Claims 12–15 over Williams and Goldsmith; Ground 13 challenges Claims 12 and 14–15 over Howard, Doherty, and Goldsmith. Pet. at 46–51, 105–106. Each claim depends from Claim 1 and specifies what “*the wireless network*” over which Claim 1’s client and controlled devices communicate must be, *e.g.*, a Bluetooth or Zigbee WPAN (Claim 12), an IEEE 802.11 WLAN (Claim 13), a network using a licensed or unlicensed ISM radio band (Claim 14), or a 3G or 4G “*cellular telephone network*” (Claim 15). ’710 Patent, Claims 12–15.

1. Goldsmith’s Protocol Survey Does Not Disclose the Configured Claimed System, and Claim 12’s Internet Link Comes from Five References Outside the Grounds

For Claim 12, the Petition quotes Goldsmith’s survey: Goldsmith “summarizes the main characteristics of Zigbee, Bluetooth, and UWB,” which are “designed to be compliant with the IEEE 802.15 standards,” and observes that “it becomes feasible to embed them in more types of electronic devices, which can be used to create smart homes.” Pet. at 47 (quoting EX1035, 601-602, 19). But Claim 1 requires more of “*the wireless network*” than that its protocol exist: the client device must send the captured voice data to the server “*via the wireless network*,”

the server must receive it “*over the Internet*,” and the client and controlled devices must receive the server’s messages “*via the wireless network*”—so a Claim 12 WPAN must be the network through which the home devices reach, and are reached by, a server over the Internet. The Petition supplies that link not from Williams, Howard, Doherty, or Goldsmith, but from a set of outside references (*i.e.*, Tran, Johnson, Tran, and Ji) for the proposition that “routers having Bluetooth capabilities and Bluetooth access points/gateways with connection to the Internet were well-known.” Pet. at 47–48 (citing EX1025, 59:21-24; EX1026, 4:25-27; EX1027, 4:20-22; EX1032, 1:67-2:3; quoting EX1020, [0027]). Ground 13 repeats the same citations to references outside the Ground. Pet. at 106. None of these five references is part of either ground. Pet. at 6–7. Supplying the pivotal Bluetooth-to-Internet link from outside the ground is what 37 C.F.R. § 42.104(b)(4) and the Stewart Memorandum prohibit, and the Board may not adopt the unraised multi-reference theory on Petitioner’s behalf. *Magnum Oil*, 829 F.3d at 1380-81. Ex. 2008, ¶ 69.

2. The Remaining Claims Fare No Better, and the “Obvious to Try” Assertion Is Unsupported

For Claims 13 and 14, the Petition again offers survey excerpts—the 802.11 family and the unlicensed ISM bands—and rests the combination entirely on its Claim 12 analysis. Pet. at 48–50. For Claim 15, the claimed “*wireless network*” must, itself, be a “*cellular telephone network*.” The Petition quotes Goldsmith’s

descriptions of GSM, EDGE, and W-CDMA, and then, because nothing in Williams, Howard, Doherty, or Goldsmith places the home's client and controlled devices on a cellular network, adds that "home appliances with cellular connectivity were well-known," citing Wang (EX1030, Claims 14-16, 18) —yet another reference outside both grounds. Pet. at 50–51; *see id.* at 106. The combination rationale for all of these claims is that "it would have been obvious to try combining the wireless communication techniques of Goldsmith (*e.g.*, Bluetooth and Zigbee) with the teachings of Williams without requiring much effort" and, for Ground 13, that "[i]t would have been obvious to try combining Goldsmith with Howard-Doherty." *Id.* at 48 and 106. "Obvious to try" has force only "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions." *KSR*, 550 U.S. at 421. The Petition identifies no design need in Williams or Howard, nor a finite set of identified solutions, nor any reason to select any particular network type—it simply walks through the claims' own lists. Ground 13 has a further defect, *i.e.*, its assertion that "Goldsmith discloses claims 12 and 14-15" is cited to "EX1006, 229-230"—pages of Doherty, not of Goldsmith—leaving the Board and Patent Owner to guess where the asserted disclosures are to be found. Pet. at 105–106; 35 U.S.C. § 312(a)(3); 37 C.F.R. § 42.104(b)(4). Ex. 2008, ¶ 70.

In sum, Goldsmith's survey merely shows that the recited network types existed; it does not show the claimed system configured with any of them. And the

potentially relevant disclosures in the prior art—*i.e.*, the Bluetooth path to the Internet-connected server and cellular-connected home appliances—come from references outside the grounds, under an “obvious to try” label that *KSR* does not permit on this record. Thus, Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 5 and 13 is unpatentable.

G. Grounds 6 and 14 Do Not Show Claims 17–22 Are Unpatentable

Ground 6 challenges Claims 17–22 over Williams and Chatterjee (EX1011); Ground 14 challenges Claim 22 over Howard, Doherty, and Chatterjee. Pet. at 51–54, 106–107. Claims 17–22 depend from Claim 16 and specify the appliance in which “*the controlled device*” is integrated, *e.g.*: food storage, handling, or preparation (Claim 17), heating food (Claim 18), refrigeration and kitchen appliances (Claim 19), HVAC (Claim 20), temperature control (Claim 21), and cleaning (Claim 22). ’710 Patent, Claims 16–22.

Chatterjee, however, at most just discloses the existence of certain types of appliances Pet. at 52–53 (quoting EX1011, [0012], [0014]). The claims, however, require more of the “*appliance*”: it houses “*the controlled device*”—the device that must receive the server’s “*second message*” “*via the wireless network*” and operate “*a second actuator . . . in response to the received second message.*” The Petition never explains how Chatterjee’s appliances would be integrated into Williams’s

system, in which the server’s applications deliver informational “services 218” rather than control messages (*supra* § VI.A), or into Howard’s system, in which control signals travel over the local home network from an in-home server (*supra* § VI.B). And Chatterjee itself, as the Petition describes it, controls its appliances through “a device controller integrated into the appliance devices” directed from a mobile device—“a system and method for providing home automation using a mobile device”—not through a server’s Internet-transmitted message. Pet. at 51–52 (quoting EX1011, Abstract). Ex. 2008, ¶ 71.

Further, the motivation to combine offered is simply “to expand the capabilities of Williams with a reasonable expectation of success,” and, for Ground 14, the statement that combining “would improve and expand the capabilities of Howard-Doherty in the same way.” Pet. at 53, 106–107. An aspiration to “expand the capabilities” simply restates a desire to combine without providing an actual reason to do so, which is insufficient. *Magnum Oil*, 829 F.3d at 1380; *In re Van Os*, 844 F.3d at 1361. In sum, to the extent certain of the appliances of Claims 17–22 appear in Chatterjee, the claimed method does not: no ground reference shows a server’s “*second message*” operating an actuator in any of them, and no articulated reason supports the combination. Thus, Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 6 and 14 is unpatentable.

H. Grounds 7 and 15 Do Not Show that Claims 24–25 Are Unpatentable

Ground 7 challenges Claims 24–25 over Williams and Rosenberger (EX1012); Ground 15 challenges the same claims over Howard, Doherty, and Rosenberger. Pet. at 54–56, 107. Claim 24 requires that “*the first actuator*”—the actuator that Claim 1 operates “*in the client device in response to the received first message*”—be “*an electric light source for converting electrical energy into light that emits visible or non-visible light for illumination or indication.*” Claim 25 depends from Claim 24 and recites species such as LEDs.

Rosenberger’s light, however, does not do what the claims require. In Rosenberger, the “multi-colored LED status light 34” belongs to a self-contained speech-recognizing control device that performs its own recognition: “[u]pon receiving and recognizing a speech trigger phrase . . . the device beeps, changes its status light 34 or plays a prerecorded or synthesized audio message,” prompting the user to speak commands “from a known vocabulary or grammar stored in the speech pattern memory 14.” Pet. at 54–56 (quoting EX1012, 8:8-16, 8:20-32). As such, the light of Rosenberger indicates the device’s own, locally determined “device states and modes.” *Id.* But Claim 24’s light source is “*the first actuator*,” and Claim 1 requires “*operating a first actuator in the client device in response to the received first message*”—the message generated by the remote server “*responsive to the*

processing” of the captured voice data and sent “*over the Internet*.” A light that reflects local device state “as taught by Rosenberger” is not shown to operate in response to any server-sent message, and neither the Petition nor Dr. Houh identifies any disclosure that it would. The mapping does not address the claim as written. Ex. 2008, ¶ 72.

Further, the proffered motivation to combine is entirely generic: “to improve the usability of the device.” Pet. at 56, 107. The Petition does not say what usability problem the light would solve, or why a POSITA designing Williams’s interface device 116 or Howard’s portable device would add Rosenberger’s status light, other than that the claims recite one. *Id.*; *In re Van Os*, 844 F.3d at 1361. In sum, Rosenberger’s status light answers to the device’s own speech recognition, not to a “*first message*” received from a server over the Internet, and no articulated reason supports adding it. Thus, Petitioner has not proven by a preponderance of the evidence that either claim challenged in Grounds 7 and 15 is unpatentable.

I. Grounds 8 and 16 Do Not Show that Claims 9 and 26–28 Are Unpatentable

Ground 8 challenges Claims 9 and 26–28 over Williams and Rossing (EX1013); Ground 16 challenges the same claims over Howard, Doherty, and Rossing. Pet. at 56–60, 107–108.

Regarding Claim 9, the Petition argues that “[a] POSITA would have

understood that the claim refers to a standard microphone.” *Id.* at 57. Claim 9, however, recites specific microphone constructions and operating principles—“*an omnidirectional, unidirectional, or bidirectional microphone that is based on the sensing an incident sound-based motion of a diaphragm or a ribbon,*” or “*a condenser, an electret, a dynamic, a ribbon, a carbon, or a piezoelectric microphone.*” ’710 Patent, Claim 9. Neither Williams nor Howard discloses anything about its microphone’s construction. Pet. at 57–58 And Rossing—from which the Petition quotes that “[c]ommon to virtually all microphones ever made is a diaphragm,” along with descriptions of ribbon, condenser, electret, carbon, and piezoelectric microphone types—establishes only that such microphones existed. *Id.* at 57–58 (quoting EX1013, 757-759, 309). The Petition never identifies which microphone the combined system would use, or why; “look[ing] to Rossing for techniques and details” is merely a description of consulting a reference book, not a reason to configure the claimed method with any recited construction. *Id.* at 59; *Magnum Oil*, 829 F.3d at 1380; *In re Van Os*, 844 F.3d at 1361. Ex. 2008, ¶ 73.

Claim 26 requires that “*the first actuator is a motion actuator that causes linear or rotary motion.*” ’710 Patent, Claim 26. The Petition’s only theory is that the primary reference’s speaker (Williams’s speaker 206 in Ground 8, Howard’s speaker in Ground 16) is the claimed “*motion actuator*” because Rossing describes a loudspeaker as a device in which “the electrical energy is converted to mechanical

energy, specifically the movement of a diaphragm.” Pet. at 59 (quoting EX1013, 763); *see id.* at 107–108. On Petitioner’s logic, every Claim 27 “*sounder*” (which produces sound precisely by moving a diaphragm or equivalent element) is also a Claim 26 “*motion actuator*,” collapsing the two claims and reading their distinct actuator categories out of the claims. Different claims are presumed to have different scope. The remaining Rossing citations supply only the observations that loudspeakers exhibit “linear motion” and that a moving-coil loudspeaker’s coil can “move axially.” *Id.* at 59 (quoting EX1013, 903, 18). The Petition identifies no other candidate motion actuator in either combination. Ex. 2008, ¶ 74.

The mapping for Claims 27–28 have an additional defect. To show the claimed “*sounder*,” the Petition asserts that “a POSITA would have understood that a speaker is a sounder for converting an electrical energy to sound waves,” resting in part on Sinclair (EX1017, 122, 123)—once again, a reference outside both grounds. Pet. at 59–60; 37 C.F.R. § 42.104(b)(4). And for Claim 28’s specific requirements, the Petition offers Rossing’s general observation that “many of the same transduction methods that have been used in microphones have at least been tried for loudspeakers including magnetic (also known as dynamic), piezoelectric, and condenser,” with no reason to select any of them for the combined system. Pet. at 60 (quoting EX1013, 763). But Rossing’s general survey of what has “at least been tried” is not a showing of what the combination actually discloses, and the

Stewart Memorandum forbids supplying the element from a reference outside the ground. Ex. 2008, ¶ 75.

In sum, the Petition rewrites Claim 9 to a “standard microphone,” maps Claim 26 by collapsing it into Claims 27–28, and supports Claims 27–28 with an outside reference and a general survey. Thus, Petitioner has not proven by a preponderance of the evidence that any claim challenged in Grounds 8 and 16 is unpatentable.

VII. CONCLUSION

For the foregoing reasons, Petitioner has not proven by a preponderance of the evidence that any of Claims 1–29 of the ’710 Patent is unpatentable. Patent Owner respectfully requests that the Board issue a final written decision confirming the patentability of all Challenged Claims.

Respectfully submitted,

Dated: July 29, 2026

By: /Peter Lambrianakos /
Peter Lambrianakos (Reg. No. 58,279)
Fabricant, Rubino & Lambrianakos LLP
411 Theodore Fremd Avenue,
Suite 206 South
Rye, New York 10580
Tel. 212-257-5797
Fax. 212-257-5796
Email: plambrianakos@frlip.com

CERTIFICATE OF WORD COUNT

The undersigned hereby certifies that the portions of the above-captioned PATENT OWNER'S RESPONSE has 9,289 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24. This word count was prepared using Microsoft Word for Office 365.

Respectfully submitted,

July 29, 2026

By: /Peter Lambrianakos /
Peter Lambrianakos (Reg. No. 58,279)
Lead Counsel for Patent Owner
Fabricant, Rubino & Lambrianakos LLP
411 Theodore Fremd Avenue,
Suite 206 South
Rye, New York 10580
Tel. 212-257-5797
Fax. 212-257-5796

CERTIFICATE OF SERVICE

A copy of the foregoing PATENT OWNER'S RESPONSE and Exhibit 2008
have been served on Petitioner's counsel of record as follows:

Alex S. Yap
Email: Amazon_SmartSpeaker_IPRs@mofo.com
E-mail: AYap@mofo.com
Mehran Arjomand
E-mail: MArjomand@mofo.com
MORRISON & FOERSTER LLP
707 Wilshire Blvd., Suite 6000
Los Angeles, CA 90017

Yunan Yuan
E-mail: AYuan@mofo.com
MORRISON & FOERSTER LLP
755 Page Mill Road
Palo Alto, CA 94304-1018

Attorneys for Amazon.com Services LLC

July 29, 2026

By: /Peter Lambrianakos /
Peter Lambrianakos (Reg. No. 58,279)
Lead Counsel for Patent Owner