

No. 2025-1045; 2025-1046

**United States Court of Appeals
for the Federal Circuit**

OLLNOVA TECHNOLOGIES LTD.

Plaintiff-Appellant

v.

ECOBEE TECHNOLOGIES ULC, DBA ECOBEE,

Defendant-Cross-Appellant

Appeal from the United States District Court for the Eastern District of Texas
in No. 2:22-cv-00072-JRG, Chief Judge J. Rodney Gilstrap

**APPELLANT OLLNOVA TECHNOLOGIES LTD.'S
NON-CONFIDENTIAL RESPONSE AND REPLY BRIEF**

March 31, 2025

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EXEMPLARY PATENT CLAIMS AT ISSUE

Claim 1 of U.S. Patent No. 7,746,887

1[pre] A wireless automation device, comprising:

[1.1] a transceiver operable to wirelessly communicate packets of information over a wireless network;

[1.2] a sensor operable to generate a indicator for a sensed condition;

[1.3] a controller configured to poll the sensor at a polling interval to read the indicator during a current period of the polling interval and to selectively operate the transceiver to communicate information associated reading of the indicator; and

[1.4] a memory, the controller storing a reading of the indicator during the current period in the memory, where the memory stores at least one prior reading of the indicator, the prior reading of the indicator made during a prior period of the polling interval,

[1.5] wherein the transceiver is configured to transmit a most recent reading of the indicator stored in the memory during a period of a transmission interval in response to detecting a change in the sensed condition outside a predetermined range and wherein transmission of the most recent reading of the indicator stored in the memory during the period of the transmission interval is suspended in response to detecting a change in the sensed condition within the predetermined range.

Claim 13 of U.S. Patent No. 8,264,371

13[pre] An automation component configured for wireless communication within a building automation system, the automation component comprising:

[13.1] a wireless communications component;

[13.2] a processor in communication with the wireless communications component;

[13.3] a memory in communication with the processor, the memory configured to store computer readable instructions which are executable by the processor;

[13.4] wherein the computer readable instructions are programmed to:

receive at least one change-of-value update via the wireless communications component, wherein the change-of-value update includes a plurality of change-of-value messages received from a plurality of devices;

[13.5] storing the at least one change-of-value update corresponding to at least one wireless device; and

[13.6] communicate the at least one change-of-value update in response to a polling request and repeat the at least one change-of-value update at regular intervals according to a schedule or until a change-of value acknowledgment is received.

Claim 1 of U.S. Patent No. 7,860,495

1[pre] A control system for wireless building automation control, the control system comprising:

[1.1] a first wireless network in a building having first wireless communications protocol; and

[1.2] a second wireless network in the building having a second wireless communications protocol, the first wireless communications protocol different than the second wireless communications protocol;

[1.3] wherein the first wireless network is operable to control, free of communications with the second wireless network, building components in response to sensors operable within the first wireless network, and wherein the first wireless network is also operable to control the building components in response to data from the second wireless network.

CERTIFICATE OF INTEREST

Pursuant to Federal Circuit Rule 47.4, the undersigned counsel for the appellant, Ollnova Technologies Ltd., certifies the following:

1. The full names of every party represented by counsel of record are Ollnova Technologies Limited, a corporation.
2. The name of the real parties in interest are Ollnova Technologies Limited.
3. There are no parent companies, subsidiaries (except wholly-owned subsidiaries), and affiliates that have issued shares to the public, of the party represented by me.
4. The names of all the law firms, partners and associates that appeared for the entities in the originating court or agency and have not entered an appearance in this Court are Seth Hasenour, Jonathan Yim, and Drew Hollander (BC Law Group, P.C.); and Andrea Fair and Garrett Parish (Miller Fair Henry PLLC).
5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal is: *Ollnova Technologies Ltd. v. ecobee Technologies ULC d/b/a ecobee*, Case No. 2:22-cv-00072-JRG (E.D. Tex.).
6. Any information required under Fed. R. App. P. 26.1(b) and 26.1(c): none

Dated: March 31, 2025

/s/ Brett Cooper
Brett Cooper

CERTIFICATE OF CONFIDENTIAL MATERIAL

Pursuant to Federal Circuit Rule 25.1(e)(2), the exact number of unique words (including numbers) sought to be marked confidential in this brief is: 5.

The material marked confidential on pages 11, 45, 46, 48 and 49 of this brief describes highly confidential design details and source code information concerning the accused ecobee products that was designated attorneys' eyes only under the applicable protective order. The material marked confidential on pages 11, 49, 50, 51, 52, 53, 54, 55, and 56 of this brief describes highly confidential terms of Ollnova's licensing agreements with a non-party and highly confidential ecobee financial information that was designated attorneys' eyes only under the applicable protective order.

Dated: March 31, 2025

/s/ Brett Cooper
Brett Cooper

TABLE OF CONTENTS

CERTIFICATE OF INTEREST iv

CERTIFICATE OF CONFIDENTIAL MATERIAL v

TABLE OF AUTHORITIES ix

STATEMENT OF RELATED CASES xiv

TABLE OF ABBREVIATIONS xv

INTRODUCTION 1

STATEMENT OF THE ISSUES 1

STATEMENT OF THE CASE 2

 A. Technological Background & Asserted Patents 2

 i. The '887 Patent – “Selective Transmission” 3

 ii. The '371 Patent – “Change-of-Value Update” 4

 iii. The '495 Patent – “Dual-Network Control” 5

 B. Proceedings Below 5

 i. ecobee’s Failed Motion To Dismiss 5

 ii. ecobee’s Failed Motions For Summary Judgment And To
 Strike 7

 iii. Jury Instructions And Verdict Form 8

 a. Instructions on patent eligibility 8

 b. Verdict form 9

 iv. Jury Verdict 10

v.	ecobee’s Failed Post-Trial Motions	10
a.	’495 Patent JMOL of patent ineligibility.....	10
b.	’371 Patent JMOL of non-infringement	11
c.	JMOL or new trial on damages	11
d.	New trial on verdict form	12
	SUMMARY OF ARGUMENT	12
	STANDARDS OF REVIEW	14
	ARGUMENT	15
I.	The ’887 Patent Is Patent Eligible	15
A.	The ’887 Patent Claims Are Patent-Eligible Under <i>Alice</i> Step One	16
B.	The ’887 Patent Recites Patent-Eligible Applications Under <i>Alice</i> Step Two.....	22
II.	The ’371 Patent Is Patent Eligible.....	24
A.	The ’371 Patent Claims Are Patent-Eligible Under <i>Alice</i> Step One	24
B.	The ’371 Patent Recites Patent-Eligible Applications Under <i>Alice</i> Step Two.....	29
III.	Sufficient Evidence Supports The Jury’s Verdict That The ’495 Patent Is Patent Eligible Under <i>Alice</i> Step Two	30
IV.	The Jury Instructions And Verdict Form On Patent Eligibility Were Proper	35
A.	The Jury Instructions And Verdict Form Correctly Stated The Law.....	36

B.	ecobee’s Challenges To The Jury Instructions And Verdict Form Fail	38
C.	Any Purported Error Was Harmless	41
V.	Substantial Evidence Supports The Jury Verdict Of Infringement Of The ’371 Patent	44
A.	Substantial Evidence Supports The Infringement Verdict.....	45
B.	ecobee’s Contrary Arguments Lack Merit.....	46
VI.	The District Court Properly Admitted Reliable Damages Testimony	49
A.	Mr. Bergman’s Adjustment For Portfolio Scope Was Conservative And Properly Accounted For Non-Asserted Patents	50
B.	Mr. Bergman Properly Adjusted For Market Share	54
C.	The District Court Properly Admitted Madisetti’s Testimony That Ollnova’s Predecessor Complied With The Marking Requirement	56
VII.	The District Court’s General Verdict Form Was Proper.....	58
VIII.	Reply Argument On Correctly Setting The Accrual Of Pre-Judgment Interest	61
	CONCLUSION.....	61

TABLE OF AUTHORITIES

Cases

Aatrix Software, Inc. v. Green Shades Software, Inc.,
882 F.3d 1121 (Fed. Cir. 2018)..... 36

Amado v. Microsoft Corp.,
517 F.3d 1353 (Fed. Cir. 2008) 39

Amdocs (Israel) Ltd. v. Openet Telecom, Inc.,
841 F.3d 1288 (Fed. Cir. 2016) 23, 30, 32, 40

Ancora Techs., Inc. v. HTC Am., Inc.,
908 F.3d 1343 (Fed. Cir. 2018) 16

Apple Inc. v. Wi-LAN Inc.,
25 F.4th 960 (Fed. Cir. 2022) 51

Arctic Cat Inc. v. Bombardier Rec. Prods. Inc.,
876 F.3d 1350 (Fed. Cir. 2017) 56, 58

Baldwin Graphic Sys., Inc. v. Siebert, Inc.,
512 F.3d 1338 (Fed. Cir. 2008) 48

BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC,
827 F.3d 1341 (Fed. Cir. 2016) 22, 36

Berkheimer v. HP Inc.,
881 F.3d 1360 (Fed. Cir. 2018)..... 14, 22, 33

Bio-Rad Labs., Inc. v. 10X Genomics, Inc.,
967 F.3d 1353 (Fed. Cir. 2020) 49, 51, 52, 54

Bradium Techs. LLC v. Iancu,
923 F.3d 1032 (Fed. Cir. 2019) 17

C R Bard Inc. v. AngioDynamics, Inc.,
979 F.3d 1372 (Fed. Cir. 2020) 28

CardioNet, LLC v. InfoBionic, Inc.,
955 F.3d 1358 (Fed. Cir. 2020) 19, 20, 21, 22, 27

Chiron Corp. v. Genentech, Inc.,
363 F.3d 1247 (Fed. Cir. 2004) 39

Comcast IP Holdings I LLC v. Sprint Comm’ns Co.,
850 F.3d 1302 (Fed. Cir. 2017) 61

Contour IP Holding LLC v. GoPro, Inc.,
113 F.4th 1373 (Fed. Cir. 2024)..... 18, 19

Coop. Ent., Inc. v. Kollektive Tech., Inc.,
50 F.4th 127 (Fed. Cir. 2022)..... 30, 32

CosmoKey Sols. GMBH & Co. KG v. Duo Sec. LLC,
15 F.4th 1091 (Fed. Cir. 2021) 40

CytoLogix Corp. v. Ventana Med. Sys., Inc.,
424 F.3d 1168 (Fed. Cir. 2005)..... 44

Data Engine Techs. LLC v. Google LLC,
906 F.3d 999 (Fed. Cir. 2018) 21

DDR Holdings, LLC v. Hotels.com L.P.,
773 F.3d 1245 (Fed. Cir. 2014) 40

Diamond v. Diehr,
450 U.S. 175 (1981) 21

DSU Med. Corp. v. JMS Co.,
471 F.3d 1293 (Fed. Cir. 2006) 38

EcoServices, LLC v. Certified Aviation Servs., LLC,
830 F. App’x 634 (Fed. Cir. 2020)..... 14

Enfish, LLC v. Microsoft Corp.,
822 F.3d 1327 (Fed. Cir. 2016) 19

Ericsson, Inc. v. D-Link Sys., Inc.,
773 F.3d 1201 (Fed. Cir. 2014) 37, 54

Finjan, Inc. v. Blue Coat Sys., Inc.,
879 F.3d 1299 (Fed. Cir. 2020) 35

Golden Bridge Tech. v. Apple Inc.,
 No. 5:12-CV-04882-PSG, 2014 WL 2194501 (N.D. Cal. May 18, 2014) 53

Hager v. Gordon,
 171 F.2d 90 (9th Cir. 1948) 59

Hoechst Celanese Corp. v. BP Chemicals Ltd.,
 78 F.3d 1575 (Fed. Cir. 1996) 59

i4i Ltd. P’ship v. Microsoft Corp.,
 598 F.3d 831 (Fed. Cir. 2010), *aff’d*, 564 U.S. 91 (2011)..... 36, 52, 55, 59

In re 3 Star Props., L.L.C.,
 6 F.4th 595 (5th Cir. 2021) 58

Infernal Tech., LLC v. Sony Interactive Ent. LLC,
 No. 2022-1647, 2024 WL 390881 (Fed. Cir. Feb. 2, 2024) 39

Johnson v. ABLT Trucking Co.,
 412 F.3d 1138 (10th Cir. 2005)..... 59

Kaufman v. Microsoft Corp.,
 34 F.4th 1360 (Fed. Cir. 2022) 47

Lazare Kaplan Int’l, Inc. v. Photocscribe Techs., Inc.,
 628 F.3d 1359 (Fed. Cir. 2010) 47

Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.,
 790 F.3d 1329 (Fed. Cir. 2015) 47

MobileMedia Ideas LLC v. Apple Inc.,
 780 F.3d 1159 (Fed. Cir. 2015)..... 49

MySpace, Inc. v. GraphOn Corp.,
 672 F.3d 1250 (Fed. Cir. 2012) 39

Network-1 Techs., Inc. v. Hewlett-Packard Co.,
 981 F.3d 1015 (Fed. Cir. 2020) 59

Omega Pats., LLC v. CalAmp Corp.,
 13 F.4th 1361 (Fed. Cir. 2021) 52

Packet Intel. LLC v. NetScout Sys., Inc.,
 965 F.3d 1299 (Fed. Cir. 2020) 16, 18, 21, 24, 57, 58

Personalized Media Commc'ns, LLC v. Apple, Inc.,
 No. 2:15-CV-01366-JRG-RSP, 2021 WL 662237 (E.D. Tex. Feb. 20, 2021)..... 53

Prism Techs. LLC v. Sprint Spectrum L.P.,
 849 F.3d 1360 (Fed. Cir. 2017) 51

Prytania Park Hotel v. Gen. Star Indem. Co.,
 179 F.3d 169 (5th Cir. 1999)..... 15

R.R. Dynamics, Inc. v. A. Stucki Co.,
 727 F.2d 1506 (Fed. Cir. 1984) 15, 59

SEB S.A. v. Montgomery Ward & Co., Inc.,
 594 F.3d 1360 (Fed. Cir. 2010) 59

SIPCO, LLC v. Emerson Elec. Co.,
 939 F.3d 1301 (Fed. Cir. 2019), *vacated on other grounds*, 141 S. Ct. 106 (2020)
 17

SmithKline Beecham Corp. v. Apotex Corp.,
 439 F.3d 1312 (Fed. Cir. 2006) 50, 60

Solvay S.A. v. Honeywell Int'l Inc.,
 742 F.3d 998 (Fed. Cir. 2014) 44, 46

SRI Int'l Inc. v. Cisco Sys., Inc.,
 930 F.3d 1295 (Fed. Cir. 2019) 18

Structural Rubber Prods. Co. v. Park Rubber Co.,
 749 F.2d 707 (Fed. Cir. 1984) 59

Sulzer Textil A.G. v. Picanol N.V.,
 358 F.3d 1356 (Fed. Cir. 2004) 14, 15, 35, 37, 38, 41

Thales Visionix Inc. v. United States,
 850 F.3d 1343 (Fed. Cir. 2017) 18, 21, 25

Travelers Cas. & Sur. Co. of Am. v. Ernst & Young LLP,
 542 F.3d 475 (5th Cir. 2008) 15

Uniloc USA, Inc. v. ADP, LLC,
772 F. App'x 890 (Fed. Cir. 2019) 19, 24, 34

Uniloc USA, Inc. v. LG Elecs. USA, Inc.,
957 F.3d 1303 (Fed. Cir. 2020) 24, 34

Unisplay, S.A. v. Am. Elec. Sign Co.,
69 F.3d 512 (Fed. Cir. 1995) 54

United States v. Correa-Ventura,
6 F.3d 1070 (5th Cir. 1993) 37

Vectura Ltd. v. Glaxosmithkline LLC,
981 F.3d 1030 (Fed. Cir. 2020) 51

Virnetx, Inc. v. Cisco Sys., Inc.,
767 F.3d 1308 (Fed. Cir. 2014) 14, 15

Weinar v. Rollform Inc.,
744 F.2d 797 (Fed. Cir. 1984) 41

Wordtech Sys., Inc v. Integrated Networks Sols., Inc.,
609 F.3d 1308 (Fed. Cir. 2010) 56

Zhang v. Am. Gem Seafoods, Inc.,
339 F.3d 1020 (9th Cir. 2003) 59

Statutes

35 U.S.C. § 101..... 5, 7, 36, 39

35 U.S.C. § 286..... 14, 61

STATEMENT OF RELATED CASES

Under Fed. Cir. R. 47.5(a), counsel for Appellant certifies that no other appeal from the same proceeding is or was previously before this Court or any other appellate court, whether under the same or similar title.

Under Fed. Cir. R. 47.5(b), counsel for Appellant states that the Court's decision in this appeal may affect the following judicial matters: *Ollnova Technologies Ltd. v. ecobee Technologies ULC d/b/a ecobee*, Case No. 2:22-cv-00072-JRG (E.D. Tex.); *Copeland Comfort Control LP f/k/a Emerson Electric Co. v. Ollnova Technologies Ltd.*, No. IPR2023-00626 (P.T.A.B.); *ecobee Technologies ULC v. Ollnova Technologies Ltd.*, No. IPR2024-00131 (P.T.A.B.).

TABLE OF ABBREVIATIONS

'887 Patent	U.S. Patent No. 7,746,887
'371 Patent	U.S. Patent No. 8,264,371
'495 Patent	U.S. Patent No. 7,860,495
'282 Patent	U.S. Patent No. 8,224,282
Asserted Patents	'887, '371, '495, and '282 Patents
Ollnova	Plaintiff-Appellant Ollnova Technologies Ltd.
ecobee	Defendant-Appellee ecobee Technologies ULC D/B/A ecobee
BAS	Building Automation System
OB	Opening Brief of Appellant Ollnova Technologies Ltd.
Br.	Principal Brief for Appellee/Cross-Appellant ecobee Technologies ULC D/B/A ecobee
SAP.Br.	Brief of <i>Amici Curiae</i> SAP Am. Inc., <i>et al.</i>

INTRODUCTION

The jury agreed with Ollnova that ecobee infringed three of the Asserted patents, rejected ecobee’s invalidity challenges, and awarded Ollnova \$11.5M in damages. ecobee insists that it is entitled to a new trial on everything, raising eight different issues on appeal—issues that were repeatedly raised and rejected by the district court throughout the case. As detailed herein, the Asserted Patents are patent eligible, the jury’s verdict is supported by substantial evidence, the district court did not err in its evidentiary holdings, and the jury instructions and verdict form were not erroneous. The judgment should be affirmed, subject to an adjustment to the calculation of prejudgment interest to accrue as of the time of the hypothetical negotiation.

STATEMENT OF THE ISSUES

1. Whether the claims of the ’887 Patent are patent eligible.
2. Whether the claims of the ’371 Patent are patent eligible.
3. Whether jury’s determination that the ’495 Patent is patent eligible under *Alice* Step Two is supported by substantial evidence.
4. Whether the district court’s jury instructions and verdict form on patent eligibility were erroneous and, if so, whether any supposed error was harmless.
5. Whether the jury’s finding of infringement of the ’371 Patent is supported by substantial evidence.

6. Whether the damages award was based on reliable damages evidence that accounted for differences between a comparable license and the hypothetical negotiation.

7. Whether the district court permissibly exercised its discretion in allowing the jury to hear evidence from Ollnova's technical expert that the Asserted Patents did not practice an unspecified system from the assignor and licensee of the patents.

8. Whether the district court's choice of verdict form was a permissible exercise of discretion.

STATEMENT OF THE CASE

A. Technological Background & Asserted Patents

The Asserted Patents were developed by Siemens Industry, Inc., a leader in integrated building automation systems ("BAS"). The Asserted Patents are directed to improvements in wireless communications among HVAC, security services, fire systems, and other related BAS components. *See* Appx143, 1:6-19; Appx186, 1:8-16; Appx156, 1:7-11. These systems typically comprise "controllers, sensors, switches, alarms, actuators, chillers, fans, humidifiers, and/or air handling units configured to automate process control for heating, ventilation, air conditioning (HVAC), environmental air quality, safety and security, fire, hazard prevention, or other processes for a building or facility." Appx143, 1:11-17. "The components

may detect events, sense conditions, respond to detected events or changes in conditions, and/or control operation of other devices.” Appx143, 1:20-22. Under the brand name “APOGEE,” Siemens developed a multitude of devices (such as sensors, actuators, controllers, and the like) which could form their own BAS or be integrated into a BAS. Appx187, 3:48-57.

Traditionally, BAS components relied on “wired” communications, which created “substantial installation costs” and “expensive” “[m]annual maintenance.” Appx156, 1:11-12, 1:37-52. “To reduce costs,” the industry looked to connecting systems using “wireless” communications technology. Appx156, 1:53-54. However, “[w]ireless networks” have limited “available bandwidth,” which can be overloaded by communications from myriad devices. Appx143, 1:34-46. The Asserted Patents solve the problems faced by prior-art building automation systems based on wireless communications, by reducing power usage and bandwidth use, reducing network traffic, avoiding network interference, and optimizing the maintenance and operation of the system. *See* Appx143, 1:47-62; Appx156, 2:16-52; Appx186, 2:7-25.

i. The ’887 Patent – “Selective Transmission”

The ’887 Patent solves the problems of limited bandwidth, signal interference, and power usage through an improved wireless automation device that remotely monitors conditions (such as temperature) and selectively communicates changes

over a wireless communications network. The device utilizes a controller for polling a sensor during a “polling interval,” storing indicators of a sensed condition from the sensor (such as temperature) in memory from prior periods of the polling interval, and selectively operating a transceiver based on whether there is a detected change in the indicator outside a predetermined range during a period of a “transmission interval.” When the change in the indicator is *outside* the predetermined range, the indicator is transmitted. But when the change in the indicator is *within* the predetermined range, the transmission of the indicator is “suspended,” conserving bandwidth.

ii. The '371 Patent – “Change-of-Value Update”

The '371 Patent improves operation and maintenance of a BAS, and increases resiliency in the face of data loss. Specifically, the invention receives a plurality of “change-of-value messages” from devices operating in a building automation system. The “change-of-value” messages “indicate whether any of the local detected values ... have changed or altered beyond a pre-defined reporting limit, e.g. COV limit” at one of the devices in the BAS. The invention then generates a “change-of-value update” message including the plurality of “change-of-value messages” received from the plurality of devices. The automation component communicates the update “at regular intervals according to a schedule or until a change-of value acknowledgment is received.”

iii. The '495 Patent – “Dual-Network Control”

The '495 Patent provides a control system for wireless building automation control comprising two different wireless networks utilizing different communication protocols. Specifically, the claims contemplate two modes of control. In one mode, the first wireless network is operable to control building components in response to data from the second wireless network. In the second mode, the first wireless network is operable to control building components in response to sensors within the first wireless network *and* free of communications from the second wireless network, which allows for “local” control in the event of a “communications failure” with the second network.

B. Proceedings Below

i. ecobee’s Failed Motion To Dismiss

ecobee filed a motion to dismiss as to all asserted claims under 35 U.S.C. § 101, which was denied. Appx117-137.

'887 Patent. The district court ruled that the asserted '887 Patent claims were directed to eligible subject matter. Appx128. As the district court explained, the patent addresses the “technical problems” of “‘limited . . . available bandwidth’” on wireless networks, and the high “‘power’” consumption of the prior-art approach of monitoring and broadcasting information “‘continuous[ly].’” Appx128. The claims recite a technical solution to that problem—“‘dynamic value reporting’”—through

a “controller [that is] ‘configured to poll [a] sensor at a polling interval’” and to “selectively” communicate updates. Appx128; Appx143, 1:34–2:28. Specifically, the invention “‘transmit[s] a most recent reading of the indicator stored in the memory during a period of a transmission interval in response to detecting a change in the sensed condition *outside* a predetermined range,’” but “‘suspend[s] [updates] in response to detecting a chan[g]e in the sensed condition *within* the predetermined range.’” Appx149-150, 14:48–15:4.¹

'371 Patent. The district court similarly ruled that claim 13 of the '371 patent was “directed to specific improvements to building automation components capable of wireless communications, and not to an abstract idea.” Appx136. That invention solved the problem of “communication failures,” for example, resulting in lost data from an automation device using a system that “‘repeat[ed] communication attempts a predetermined number of times,’” and “‘aggregated and stored [messages from the device] pending the reestablishment of communications.’” Appx136.

'495 Patent. The district court found claim 1 of the '495 patent to be “directed to the abstract idea of ‘controlling generic ‘components’ using information from two separate sources (i.e., information from two separate networks).” Appx132. However, it ruled that “factual disputes” regarding whether the claim was eligible at Step Two required trial. Appx133-134. For example, factual disputes remained as

¹ All emphasis added unless stated otherwise.

to whether “the claimed ‘different wireless networks utilizing different wireless communications protocols’ was not conventional.” Appx133-134.

ii. ecobee’s Failed Motions For Summary Judgment And To Strike

ecobee moved for summary judgment that the ’495 Patent is not eligible under § 101, which was denied because “fact questions remain with regard to the step 2 issue.” Appx2284, 69:5-8. The district court ruled that Ollnova’s expert testimony that the claimed “combination of the elements were not well-understood, routine, and conventional” raised “fact questions that should go to the jury.” Appx2284, 69:9-13; *see also* Appx82.

The district court also denied ecobee’s motion to exclude Ollnova’s damages expert, Mr. Jim Bergman, from providing testimony on, *inter alia*, his comparable license analysis. The court ruled that “[t]he complaints with Mr. Bergman’s opinions are adequately addressed through robust cross examination.” Appx82; Appx2306, 91:9-16.

In addition, ecobee moved for summary judgment that Ollnova was not entitled to pre-suit damages for a supposed failure to mark the APOGEE “system” from Siemens and to exclude Ollnova’s technical expert, Dr. Madisetti, from testifying that the Asserted Patents did not practice the APOGEE system.² The

² Ollnova also moved for summary judgment on ecobee’s marking defense, arguing ecobee failed to satisfy its burden under *Arctic Cat*. Appx4920-4937.

district court denied the motions, holding that “ecobee had not foreclosed all factual disputes as to the Siemens APOGEE system practicing the patents” and that “ecobee’s complaints as to Dr. Madiseti’s opinions are adequately addressed through robust cross examination.” Appx82; Appx2257, 42:2-21; Appx2265-2266, 50:18–51:2.

iii. Jury Instructions And Verdict Form

a. Instructions on patent eligibility

ecobee objected to the district court’s draft final jury instruction on patent eligibility for the ’495 Patent. Appx2103-2106, 1204:16–1207:5. The court overruled the objection, explaining that, while ecobee’s proposed instruction was “longer and more detailed, the Court does not find that [the court’s] instruction . . . is substantially deficient nor does the Court find it would likely confuse the jury.” Appx2106, 1207:6-17.

As relevant here, the final jury instructions provided the jury comprehensive guidance on how to evaluate patent ineligibility under *Alice* Step Two. Appx2125, 1226:8-21; Appx2127-2128, 1228:20–1229:12; Appx2138-2140, 1239:15–1241:12. The district court instructed:

To succeed on its claims for patent ineligibility, ecobee must establish two things. The first is whether the claims are directed to an abstract idea. That issue is one for the Court to decide and not the jury. It is not something you will have to decide in this case.

However, you, the jury, will decide the second question related to patent eligibility. Specifically, and in that regard, ecobee must show that the claims involve nothing more than the performance of activities which a person of ordinary skill in the art would have considered well-understood, routine, and conventional at the time the patent application was filed. You, the jury, will determine this issue....

Appx2139, 1240:4-15.

b. Verdict form

ecobee objected to the question on the draft verdict form regarding the subject-matter eligibility of the '495 Patent claims. That question asked whether “ecobee prove[d] by clear and convincing evidence that the limitations of the asserted claims of the 495 Patent, when taken individually or when taken as an ordered combination, involve only technology which a person of ordinary skill in the art would have considered to be well-understood, routine, and conventional as of April 9, 2004.” Appx8389. According to ecobee, “the question should direct the jury to only consider any additional evidence in the '495 patent beyond the abstract idea itself” Appx2112, 1213:6-13. The district court overruled the objection. Appx2112, 1213:14-15.

ecobee also objected to the draft verdict form’s question on infringement, on the basis that it did not ask about each asserted patent separately. That question asked: “Did Ollnova, the Plaintiff, prove by a preponderance of the evidence that ecobee, the Defendant, infringed ANY of the Asserted Claims of the Asserted

Patents?” Appx8388 (emphasis in original). The district court overruled that objection. Appx2111, 1212:11-24.

iv. Jury Verdict

After a five-day trial, the jury found that ecobee infringed one or more of the asserted claims of the '887 Patent, '495 Patent, and '371 Patent. The jury rejected ecobee's patent eligibility, anticipation, and obviousness challenges to the '495 Patent. The jury awarded Ollnova \$11.5M in damages. Appx8391.

v. ecobee's Failed Post-Trial Motions

ecobee moved for JMOL under Rule 50 and for a new trial under Rule 59 on various issues, which were all denied. Appx4-31; Appx32-47; Appx48-64; Appx65-80.

a. '495 Patent JMOL of patent ineligibility

ecobee moved for JMOL on whether the '495 Patent was patent eligible under *Alice* Step Two. Appx2517. ecobee also moved for JMOL and/or a new trial based on the district court's jury instructions and verdict form on the issue of patent eligibility. Appx2520.

The district court rejected ecobee's arguments. Appx48-64. The district court found that “[t]here was ample evidence presented at trial for the jury to conclude that claim 1 of the '495 Patent contained an inventive concept, or at the very least, that ecobee failed to meet its clear and convincing burden to show that there was not

an inventive concept.” Appx59. The district court also rejected ecobee’s challenge to the jury instructions and verdict form, explaining that “no one presented evidence to the jury that the abstract idea itself supplied the inventive concept.” Appx62-64.

b. ’371 Patent JMOL of non-infringement

ecobee moved for JMOL of non-infringement of the ’371 Patent, or for a new trial. Appx2763-2768. The district court rejected ecobee’s arguments. Appx17-24. The district court first explained that “while ecobee contends that ‘repeated’ [REDACTED] and [REDACTED] messages must necessarily mean sending the ‘same’ messages, it never sought such a construction at any time prior to, or during, the trial” and, “[a]ccordingly, such arguments [we]re waived.” Appx21. Second, “on the merits ... Dr. Madisetti applied the plain and ordinary meaning of the claim terms that were not construed” and presented evidence that the limitation was satisfied based on that interpretation. *Id.*

c. JMOL or new trial on damages

ecobee moved for JMOL of no damages and, alternatively, a new trial. Appx3379-3399. The district court denied ecobee’s motion, holding “Mr. Bergman did not fail to apportion the value of the [REDACTED] Agreement to determine the value of the Asserted Patents.” Appx39-42. The district court recognized that Mr. Bergman provided “a conservative estimate” to the jury by “assum[ing] for his calculations that all of the patents in the [REDACTED] Agreement were of equal value,”

although “he explained to the jury that this was likely not the case in reality.” *Id.* (emphasis removed). Second, the district court held that “a reasonable juror could find that Siemens was not required to mark the APOGEE products, and thus it was not improper for Ollnova to include pre-complaint sales in its damages calculation.” Appx44-47.

d. New trial on verdict form

The district court also rejected ecobee’s motion for a new trial based on the general verdict form. Appx65-80. The district court explained that “it is well-settled that general verdicts may be used in patent cases.” Appx75.

SUMMARY OF ARGUMENT

I. The ’887 Patent is patent eligible. The district court correctly found that the claims were not directed to an abstract idea under *Alice* Step One. The ’887 Patent is directed to an improved wireless automation device that utilizes a “polling interval” and “transmission interval” to selectively operate a transceiver to communicate changes in sensed conditions (such as temperature).

II. The ’371 Patent is patent eligible. The district court correctly found that the claims were not directed to an abstract idea under *Alice* Step One. The ’371 Patent is directed to an improved automation component configured for wireless communication that receives a plurality of “change-of-value messages” from other devices in the BAS, generates a “change-of-value update” containing the plurality

of “change-of-value messages,” stores the update, and communicates the “update” according to a schedule or until there is an acknowledgement that the update was received.

III. The '495 Patent is patent eligible. The jury's finding that the '495 Patent's dual-network architecture for two modes of control is patent eligible under *Alice* Step Two is supported by substantial evidence.

IV. The district court's jury instructions and verdict form on patent eligibility were proper and not erroneous for failing to provide additional detail on the law of patent eligibility. Regardless, any purported error was harmless.

V. The jury's verdict finding the asserted claims of the '371 Patent were infringed is supported by substantial evidence.

VI. The district court properly admitted reliable damages testimony that properly accounted for differences between a comparable license and the hypothetical negotiation, which amply supports the jury's award.

VII. The district court properly admitted reliable testimony on Ollnova's compliance with the marking statute, which the jury was permitted to credit in awarding pre-suit damages.

VIII. The verdict form was not an abuse of discretion. General verdicts are well accepted, and the district court amply instructed the jury that it must consider infringement claim-by-claim before reaching a unanimous verdict.

IX. Reply to Ollnova’s appeal – ecobee does not contest that the lump-sum reasonable royalty would have been paid as of the 2012 hypothetical negotiation. Prejudgment interest should accrue as of that date irrespective of 35 U.S.C. § 286’s prohibition of damages occurring more than six years prior to filing the complaint.

STANDARDS OF REVIEW

Patent-eligibility under §101 is a question of law reviewed de novo, but the subsidiary question of whether claims recite more than “well-understood, routine, and conventional” activity is a “question of fact” that “must be proven by clear and convincing evidence.” *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1368 (Fed. Cir. 2018); *see EcoServices, LLC v. Certified Aviation Servs., LLC*, 830 F. App’x 634, 640 (Fed. Cir. 2020) (“we review subsidiary factual findings for clear error if performed by the court and for substantial evidence if performed by a jury.”).

This Court “review[s] the denial of a motion for JMOL or a new trial under the law of the regional circuit.” *Virnetx, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1319 (Fed. Cir. 2014). On a motion for judgment as a matter of law, “[t]he Fifth Circuit requires that a jury’s determination must be upheld if it is supported by substantial evidence.” *Id.* “In the Fifth Circuit, ‘the decision to grant or deny a motion for a new trial is within the discretion of the trial court and will not be disturbed absent an abuse of discretion or a misapprehension of the law.’” *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1363 (Fed. Cir. 2004) (citing *Prytania Park Hotel v. Gen. Star*

Indem. Co., 179 F.3d 169, 173 (5th Cir. 1999)). Orders denying exclusion of evidence are reviewed “for ‘clear abuse of discretion’ resulting in substantial prejudice.” *Virnetx*, 767 F.3d at 1324 (citation omitted).

“The question of whether a jury instruction on an issue of patent law is erroneous is a matter of Federal Circuit law and is reviewed de novo.” *Sulzer*, 358 F.3d at 1363. “A jury verdict will be set aside, based on erroneous jury instructions,” *only* “if the movant can establish that ‘those instructions were legally erroneous,’ and that ‘the errors had prejudicial effect.’” *Id.* (citations omitted).

“District courts have broad authority and discretion in controlling the conduct of a trial” and “[t]hat authority extends to the form by which juries return verdicts.” *R.R. Dynamics, Inc. v. A. Stucki Co.*, 727 F.2d 1506, 1515 (Fed. Cir. 1984). Review of a verdict form is “governed by an abuse of discretion standard.” *Travelers Cas. & Sur. Co. of Am. v. Ernst & Young LLP*, 542 F.3d 475, 489 (5th Cir. 2008).

ARGUMENT

I. The ’887 Patent Is Patent Eligible

The district court correctly ruled that the ’887 Patent claims are directed to patent-eligible subject matter. To determine whether claims are patent-ineligible under §101, courts must determine “(1) whether the claim, as a whole, is ‘directed to’ patent-ineligible matter—here, an abstract idea—and (2) if so, whether the elements of the claim, considered individually or as an ordered combination

‘transform the nature of the claim’ into a patent-eligible application.” *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1347 (Fed. Cir. 2018).

A. The ’887 Patent Claims Are Patent-Eligible Under *Alice* Step One

Claim 1 of the ’887 Patent is directed to an improved wireless automation device comprising a controller configured to (1) poll a sensor during a “polling interval” and (2) selectively operate a transceiver to communicate information in a BAS during a “transmission interval.” *See* Appx149-150. That is not an abstract idea. It is well established that claims are patent-eligible at *Alice* Step One where they recite a “technological solution to a technological problem.” *Packet Intel. LLC v. NetScout Sys., Inc.*, 965 F.3d 1299, 1309 (Fed. Cir. 2020). That is the case here.

1. The ’887 Patent specification explains that the invention addresses at least three ***technological problems*** that plagued prior-art building automation devices. First, building wireless networks have limited “available bandwidth,” which can be overloaded by multiple automation devices continuously transmitting data. Appx143, 1:34-38. Second, wireless networks are “noisy”—suffering from interference—which can cause “data [to] be lost, dropped, or not communicated with the target recipient.” Appx143, 1:38-40. Third, “continuous monitoring” and “broadcast of information” uses a large amount of “power,” which drains the limited batteries of building automation devices and stresses their processors. Appx143, 1:40-46. Thus, the specification explains, “there [was] a need for a system for

reducing an amount of communication over a wireless automated system,” so as to reduce bandwidth and power use, and make the system more resistant to noise. Appx143, at 1:47-49. Limited bandwidth, signal interference, and power usage are quintessential technological problems. *See Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1036-37 (Fed. Cir. 2019); *SIPCO, LLC v. Emerson Elec. Co.*, 939 F.3d 1301, 1313 (Fed. Cir. 2019), *vacated on other grounds*, 141 S. Ct. 106 (2020).

The invention solves those bandwidth, interference, and power-consumption problems through a specific technological solution: an “automated wireless system using dynamic value reporting.” Appx143, 1:56-62. Instead of performing *continuous* monitoring and data transmission, the invention monitors a parameter during a “polling interval,” and transmits data during a “transmission interval.” Moreover, the invention **selectively** transmits data, only when necessary. Claim 1, which is representative, reflects that invention. It is directed to a building automation device having a sensor and wireless communication capabilities. Claim 1 recites that the controller of the wireless automation device is configured to poll a sensor during a “polling interval,” store indicators of a sensed condition from the sensor in memory, and selectively operate the transceiver during a “transmission interval” based on whether there is a change of an indicator of the sensed condition. Appx149-150. The transceiver transmits “a most recent reading of the indicator” in response to “detecting a change in the sensed condition **outside** a predetermined range” or

“suspend[s]” transmission when “detecting a change in the sensed condition **within** the predetermined range.” Appx149-150.

The claims recite a *technological solution*. They alter the “flow[]” of data on the network compared to conventional building automation devices, by sending new data only under certain conditions. *Packet Intel.*, 965 F.3d at 1309-10. Moreover, the claimed invention enables a building automation device to “operate differently than it otherwise could,” selectively transmitting updates instead of transmitting them continuously as in the prior art. *Contour IP Holding LLC v. GoPro, Inc.*, 113 F.4th 1373, 1380 (Fed. Cir. 2024); see *SRI Int’l Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1303 (Fed. Cir. 2019). Indeed, the ’887 Patent claims are similar to those in *Thales*, where the claims were “not directed to an abstract idea” because they “specif[ied] a particular configuration of inertial sensors and a particular method of using the raw data from the sensors” *Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348 (Fed. Cir. 2017).

That technological solution, moreover, yields technological benefits. The invention makes the building-automation control process more “robust,” and reduces load on the network and power usage by “minimiz[ing] the amount of communications.” Appx143, 1:56-59. Reduced network load, in turn, enables “increas[ing]” “the number of devices” on the network. Appx143, 1:59-62.

The “prosecution history” confirms that the ’887 patent is patent-eligible at Step One. *CardioNet, LLC v. InfoBionic, Inc.*, 955 F.3d 1358, 1374 (Fed. Cir. 2020). The examiner agreed that the claimed use of a “polling interval” to poll a sensor, storing readings from prior periods of the “polling interval,” and selective operation of the transceiver based on changes of an indicator during a “transmission interval” were key aspects of the invention absent from the prior art. *See* Appx6935-946; Appx6947-958; Appx6967-978; Appx6991-997; Appx7001-7006. These aspects of the invention are directed to an “improvement in the functioning of prior art” building automation devices, not an abstract idea. *Uniloc USA, Inc. v. ADP, LLC*, 772 F. App’x 890, 898 (Fed. Cir. 2019).

2. ecobee’s argument that the claims are directed to “the abstract steps required to collect, analyze and selectively communicate data” is meritless. Br. 40. The Step One analysis cannot be performed by “describing the claims at such a high level of abstraction” such that the characterization becomes “untethered from the language of the claims.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337 (Fed. Cir. 2016); *Contour*, 113 F.4th at 1379-80 (*Alice* Step One is not an exercise in “characteriz[ing] the claims at an impermissibly high level of generality” and then attacking *that characterization* as unpatentably abstract).

As the district court explained, the claims here are not directed to abstract data analysis and transmission. Appx128. Instead, the claims “improve[.]” prior-art

building automation devices by altering when and how they report data. Appx128-129. In contrast to the prior art, the invention “selectively operate[s] the transceiver (e.g., suspending transmission so as to reduce wireless traffic and power consumption in some situations, such as a ‘ramp-up condition’ (see [Appx148], 12:51–63), while polling the sensor at a ‘polling interval’ so that important information can still be captured (e.g., ‘to identify whether an extreme condition may be present, such as a large temperature increase d[ue] to a fire’). (See [Appx147] at 10:22–30.)” Appx128. The claims thus are directed to a technological improvement to a technological device, which improves the device itself—reducing network load, enhancing resilience to data loss, and reducing power usage. See pp. 16-18, *supra*.

The ’887 Patent is akin to the non-abstract invention in *CardioNet*. In that case, the “language of claim 1 indicates that it is directed to a device that detects beat-to-beat timing of cardiac activity, detects premature ventricular beats, and determines the relevance of the beat-to-beat timing to atrial fibrillation or atrial flutter, taking into account the variability in the beat-to-beat timing caused by premature ventricular beats identified by the device’s ventricular beat detector.” *CardioNet*, 955 F.3d at 1368. The Federal Circuit found the claim at issue was directed to an improved cardiac monitoring device, and not to an abstract idea, because it ““focus[ed] on a specific means or method that improves’ cardiac

monitoring technology” and was not “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *Id.* Likewise here, claim 1 of the ’887 Patent is directed to addressing specific problems that arise from wireless communications in a BAS and provides a technological solution through an improved automation component that uses, *inter alia*, a “polling interval,” “transmission interval,” and selectively operates the transceiver based on sensor indicators during those intervals. *See Packet Intel.*, 965 F.3d 1309-10 (“the elements recited in the claims refer to specific technological features functioning together” to provide “a technological solution to a technological problem.”).

Finally, *ecobee* is wrong that the claimed building automation component embodies an abstract idea that “can be performed in the human mind” or “using pen and paper” “without requiring any hardware components.” Br. 40-41. Claims are not ineligible merely because they involve a computation that could theoretically be carried out mentally. *See Diamond v. Diehr*, 450 U.S. 175, 185 (1981); *see also Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1011 (Fed. Cir. 2018) (“It is not enough ... to merely trace the invention to some real-world analogy.”). Claims that change how devices process data to make the device itself better are patent-eligible, even if the change involves an algorithm that could be performed mentally. *See, e.g., CardioNet*, 955 F.3d at 1371; *Thales*, 850 F.3d at 1347. Here, the claims recite a new way of using automation components (such as temperature sensors) to

monitor and report data in a BAS—which improves the efficiency and power-usage of those automation devices. *See* pp. 16-18, *supra*. The specific improvements to the functionality of the claimed automation device are not abstract under *Alice* Step One.

B. The '887 Patent Recites Patent-Eligible Applications Under *Alice* Step Two

Because the '887 Patent claims are not directed to abstract ideas, the Court need not consider Step Two. *CardioNet*, 955 F.3d at 1371. Regardless, *ecobee* fails to meet its burden to prove by clear and convincing evidence that the combination of elements in the claims is well-understood, routine and conventional. *Berkheimer*, 881 F.3d at 1368.

At most, *ecobee* cites evidence from the patent specifications suggesting that certain components—in isolation and divorced from their use in the claims—were conventional. Br. 42-43. But “[w]hether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art.” *Berkheimer*, 881 F.3d at 1369. That is, “[t]he inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art.” *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Here, *ecobee* fails to provide any evidence, much less clear and convincing, that the claimed advances over the prior art were merely conventional or routine.

Moreover, the specification and prosecution history contradict ecobee's assertions, Br. 44-45, and confirm that the claimed combination is not conventional, well-understood, and routine. The specification explains that prior-art automation devices suffered from deficiencies in terms of efficiency and power use. *See* pp. 16-18, *supra*; Appx143, 1:47-49. The claimed combination overcomes those problems by “minimizing or reducing the amount of information reported by a sensor.” Appx143, 1:56-62. The prosecution history further confirms that the use of a “polling interval” and selective transmission of the transceiver were not present in the prior art. *See Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1300 (Fed. Cir. 2016) (claims eligible “when the claims solve a technology-based problem, even with conventional, generic components, combined in an unconventional manner.”).

As such, ecobee fails to meet its burden that the '887 Patent claims fail to recite an inventive concept under *Alice* Step Two. At a minimum, there are factual disputes as to whether these advances were merely well-understood, routine, and conventional in light of the teachings of the specifications and discussions in the prosecution histories that cannot be resolved on appeal and require remand.

II. The '371 Patent Is Patent Eligible

A. The '371 Patent Claims Are Patent-Eligible Under *Alice* Step One

Like the '887 Patent, claim 13 of the '371 patent recites a “technological solution to a technological problem.” *Packet Intel.*, 965 F.3d at 1309; *see* Appx190.

1. The '371 Patent explains that the industry sought to build automation systems for buildings using “[w]ireless devices,” but that created difficulties in “configuring” the devices to connect to the wireless network, and dealing with “bandwidth” limitations and data loss from “communications difficulties” that impaired reliability. Appx186, 1:56-59, 2:7-14; Appx189, 7:62-65, 8:10-13. Configuring hardware devices, accommodating limited bandwidth, and contending with data loss all are quintessential *technological problems*. *See* p.7, *supra*.

The '371 Patent solves those problems using a *technological solution*. The claims recite an automation component that utilizes a particular combination of messaging and communications capabilities. Specifically, as detailed in exemplary claim 13, the claimed invention utilizes the exchange of specific *types* of messages (“change-of-value messages”), *aggregate* those messages into a “change of value update” message, and then *communicate* the “change-of-value update” “at regular intervals according to a schedule or until a change-of-value acknowledgment is received.” The '371 Patent claims, like those at issue in *Uniloc*, “are directed to a specific asserted improvement to the functionality of the communication system

itself” and are eligible under *Alice* Step One. *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1308 (Fed. Cir. 2020) (claims “directed to ‘adding to each inquiry message prior to transmission an additional data field for polling at least one secondary station’” and “th[e] change in the manner of transmitting data results in reduced response time by peripheral devices which are part of the claimed system.”); *see also Thales*, 850 F.3d at 1347 (holding patents claimed patentable subject matter where “[t]he claims specify ... a particular method of using the raw data from the sensors....”).

First, the claimed invention uses “change-of-value” (“COV”) messages to improve “configuration, maintenance and operation of the building automation system.” Appx186, 1:8–2:14. The COV messages are exchanged among automation devices in the BAS to indicate that relevant “values, parameters, or measurements have changed or [been] altered beyond a pre-defined reporting limit, e.g. COV limit.” Appx188, 6:39-49. The COV messages contribute to the functioning of the BAS because they allow the system to recognize whether a device in the system has “detected or received the new value representing the change-of-value” that may require corrective action by the building automation system. Appx188, 6:51-56. In addition, “[i]f the automation component 200 a does not receive a message from the automation component 200 b for a period” of time, “then the automation component

200 a will report a loss of communication with the automation component 200 b.” Appx189, 8:4-9.

The claim also recites a second type of message—a “change-of-value update,” which aggregates multiple COV messages. A change-of-value update “includes a plurality of change-of-value messages received from a plurality of devices,” which is stored by the automation component. The “change-of-value update” “allows COV related messages to be gathered and pushed ... up to the 200 a device and from the 200 a device to other system components.” Appx189, 7:58-62. By using a single “change-of-value update” containing a plurality of “change-of-value messages” (“as opposed to polling each automation component” in the system), “less wireless bandwidth is used and system end to end delays shortened.” Appx189, 7:62-65.

Notably, the claimed invention uses change-of-value updates to provide resilience during communications interruptions. The claim recites that, “during [a] period when communication is not possible, the COV-related messages may still be aggregated and stored pending the reestablishment of communications,” which can then be addressed in a single update message by the system after communications are restored. Appx189, 8:10-25.

Finally, the '371 Patent claims can “handle communications difficulties or errors” by “communicat[ing] the at least one change-of-value update at regular intervals according to a schedule or until a change-of value acknowledgment is

received.” Appx189, 8:10-13. As summarized by the district court, the claimed invention solves “communication failures” by, among other things, “‘repeating communication attempts a predetermined number of times’ and . . . ‘aggregat[ing] and stor[ing] [COV messages] pending the reestablishment of communications.’” Appx136.

The prosecution history confirms that claim 13 is patent-eligible. *See CardioNet*, 955 F.3d at 1374. The examiner pointed to the claimed “change-of-value update” that “include[es] a plurality of change-of-value messages received from a plurality of devices” as a key distinction over the prior art. Appx7695-7702. Specifically, the patent examiner explained that “the COV (change of value) mechanism in [the prior art] sends a singular change report message containing the updated value, and the claim specifically recites ‘wherein the change-of-value update includes a plurality of change-of-value messages received from a plurality of devices.’” Appx7697.

2. ecobee’s argument that claim 13 is abstract improperly overlooks the key limitations. ecobee describes the claim as being directed to “generic steps of collecting, storing and communicating data” using conventional components. Br. 39, 42. But, claim 13 recites a specific scheme of messages (COV messages) for configuring automation devices and exchanging data between them, aggregating those messages (“change-of-value update”), and communicating the aggregated

update message to the BAS (either according to a schedule or until receipt of an acknowledgement) to ensure proper operation and maintenance of the system. As detailed on pp. 24-27, this specific combination of messages and communications capabilities produces technical benefits and are not abstract. *See C R Bard Inc. v. AngioDynamics, Inc.*, 979 F.3d 1372, 1384 (Fed. Cir. 2020) (“When each claim is read as a whole, the focus of the claimed advance is ... also on the means by which that information is conveyed.”); Appx190.

ecobee’s human-based analogy is as unpersuasive as it is contrived. Br. 40-41. ecobee maintains that the ’371 Patent can be performed by a human “without requiring any hardware components.” Br. 40. But ecobee’s supposed analogy requires people to “notice temperature changes” and report those “changes” to a landlord. And, it is unclear how a human can ascertain a change in temperature without the use of hardware components, such as a thermostat. Further, ecobee is required to cobble together an unrealistic series of events by a variety of actors (*e.g.*, people in apartments, a landlord, and “building management”) that fails to capture various aspects of the ’371 Patent and ignores a litany of key claim elements. For example, ecobee’s analogy does not account for “communicat[ing] the at least one change-of-value update in response to a polling request and repeat the at least one change-of-value update at regular intervals according to a schedule *or* until a change-of value acknowledgment is received.” Appx136-137 (emphasis in original).

ecobee’s analogy is also unrealistic—it makes little sense why a landlord would “send temperature change information to building management multiple times” that was “written down.” Br. 41.

B. The ’371 Patent Recites Patent-Eligible Applications Under *Alice* Step Two

The ’371 Patent is not directed to an abstract idea and, accordingly, the Court does not need to reach *Alice* Step Two. Regardless, ecobee fails to meet its burden by clear and convincing evidence that the ’371 Patent lacks an inventive concept under *Alice* Step Two.

Similar to the ’887 Patent, ecobee merely contends that certain components of claim 13 were conventional. But, as detailed above, the ’371 Patent claims a combination of components and functionality that provide technological solutions to problems that arise in the context of wireless communications in building automation control systems. In addition, the prosecution history evidences that the claimed “change-of-value update” was not conventional because it was not present in the prior art. *See Appx7695-7702.*

ecobee fails to provide clear and convincing evidence that the claimed advances over the prior art were merely conventional. At a minimum, Ollnova has set forth factual disputes on this issue that cannot be resolved on appeal.

III. Sufficient Evidence Supports The Jury’s Verdict That The ’495 Patent Is Patent Eligible Under *Alice* Step Two

Substantial evidence supports the jury’s finding that the ’495 Patent claims are eligible under *Alice* Step Two, and the district court did not err in denying ecobee’s motion for JMOL. Appx48.

This Court has explained that, under Step Two, “an architecture providing a technological solution to a technological problem” can “provide[] the requisite ‘something more’ than the performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’” *Amdocs*, 841 F.3d at 1301 (citation omitted). For example, in *Amdocs*, this Court held that an unconventional “distributed architecture” for network monitoring that “minimizes network impact by collecting and processing data close to its source” was patent-eligible at Step Two. *Id.* at 1291, 1300-01. Similarly in *Coop. Ent., Inc. v. Kollektive Tech., Inc.*, 50 F.4th 127, 133 (Fed. Cir. 2022), this Court ruled that a “particular arrangement of peer nodes for distributing content ‘outside controlled networks and/or [CDNs]’ ... which did not exist in the prior art” was eligible at Step Two. The ’495 Patent claim passes muster for the same reason.

Here, Ollnova’s technical expert, Dr. Vijay Madiseti, testified that the ’495 Patent provided a “technical solution to a technical problem.” Appx1692, 1074:14-15. He explained that prior-art building automation systems utilized a single wireless network, which posed problems. *See* Appx466-469, 267:2–270:3; *see also*

Appx3960-3967. For example, in the event of “a communication failure,” a user would “lose control of [the] functionality”—that is, a user “could have wrong measurements and that will result in different improper settings of your HVAC equipment that could result in overheating or overcooling[.]” Appx467, 268:18-24; Appx468, 269:2-5; Appx3964.

Dr. Madisetti then explained how the '495 Patent solved the issues in the prior art by providing a control system for wireless building automation utilizing two different wireless communication networks with different protocols for two modes of operation. Appx468-469, 269:6–270:3; Appx3966-67. Specifically, he detailed how the '495 Patent contemplates “two modes” of control—“one where both networks work together to control” building components and “one where the first wireless network is operable to control free of communications” with the second network. Appx1691-1692, 1073:23–1074:15; Appx688, 280:2-19. As Dr. Madisetti explained, that solved the problem with “communication failure” in one network. In the face of such a failure, the invention ensured that “you don’t lose control over your HVAC [] and your equipment.” Appx468-469, 269:20–270:3; Appx3960-3967.

Dr. Madisetti explained that the claimed architecture, with its two modes of operation, was an unconventional approach to “control of a building’s automation systems.” Appx59 (citing Appx1692, 1074:3-15). Dr. Madisetti noted that this

aspect of the invention was captured in “the third limitation” of claim 1 of the ’495 Patent. Appx1693, 1075:19-23. ecobee’s expert Dr. Martens disagreed on the issue of eligibility, but Dr. Madisetti rebutted Dr. Martens’ testimony by arguing that the “two modes” of control enabled by the “novel two wireless network architecture” provided “a technical solution to a technical problem within building automation for control.” Appx1691-1693, 1073:23–1075:23.

Dr. Madisetti’s testimony was ample evidence that the ’495 Patent provides a technological improvement to wireless building automation architectures that solves prior technical problems in an unconventional manner—namely, through the claimed use of two modes of operation.³ *See Amdocs*, 841 F.3d at 1302 (“Claim 1 involves some arguably conventional components (e.g., gatherers), but the claim also involves limitations that when considered individually and as an ordered combination recite an inventive concept through the system’s distributed architecture.”); *see also Coop. Ent.*, 50 F.4th at 135 (“useful improvements to computer networks are patentable regardless of whether the network is comprised of standard computing equipment.”). And, Dr. Madisetti’s testimony was unrebutted

³ ecobee’s contention that that there was no “evidence concerning the ‘ordered combination’ of elements that was sufficient for a jury to find that Step Two was satisfied” is incorrect. Br. 34. Dr. Madisetti clearly explained to the jury that his eligibility analysis was rooted in the “inventive combination in the context of [] control systems for building automation systems.” Appx1693, 1075:17-23; *see also* Appx466-469, 267:2–270:3; Appx1692, 1074:4-15; Appx4212 (demonstrative noting “Claims recite inventive combination”).

on this point, as ecobee's expert did not provide any analysis on the inventive nature of the two different modes of control. Among other things, ecobee's expert failed to provide any specific testimony regarding the third limitation in claim 1 requiring that the first network operate "free of communications" from the second network. *See* Appx1578-1584, 918:11–924:6. The jury reasonably credited Dr. Madisetti's testimony over that of Dr. Martens. Appx59 ("Dr. Madisetti explained to the jury that the failure of the prior art references to teach th[e] [third] limitation was consistent with the fact that this limitation was not conventional at the time of the patent. The jury was entitled to consider and agree with Dr. Madisetti's opinions.").

At trial, ecobee pointed to prior-art references showing the use of multiple networks. Appx59. However, as the district court explained, "none of them included a first wireless network that was operable to control the building components '*free of communications*' with the second wireless network." *Id.* Indeed, the jury's finding that the prior art did not anticipate or render the '495 Patent invalid bolsters the conclusion that "that the limitations of the '495 Patent, alone or in combination, recited more than conventional, well-understood, and routine elements." *See Berkheimer*, 881 F.3d at 1368 (citation omitted). Specifically, ecobee raised anticipation and obviousness arguments based on two prior art references, Meserina and Herrman. It urged that each reference taught "two networks" that used two different protocols to control components. Appx1583, 923:4-18; Appx1585-1592,

925:21–932:16; Appx1593-1599, 933:17–939:8. Dr. Madisetti disagreed, and explained that ecobee’s asserted prior art failed to disclose the claimed capability of local control, where the first wireless network is operable to control building components “free of communications” with the second wireless network. Appx1686-1687, 1068:21–1069:11; *see generally* Appx1685-1691, 1067:20–1073:22; Appx4204-206, Appx4208-010. And the jury agreed, undermining ecobee’s argument that the claim elements were “well-known and conventional.” Appx59; Br. 31-32.

Further confirming the claim’s unconventional nature was the fact that ecobee did not release a thermostat utilizing two modes of operation until 2014, six years after releasing its first smart thermostat, and more than ten years after the priority date of the ’495 Patent. *See* Appx1693, 1075:1-11. That shows the ’495 Patent claims are “hardly routine or conventional” because they “solve[] a real technical problem.” *Id.* at 1075:7-16.

Contrary to ecobee’s argument, the ’495 Patent claims also accurately reflect the inventive concept. Br. 36 (arguing that “the purported capability to maintain control if ‘one system failed’ is not mentioned [] in the claim limitations”). There is no requirement that a claim explicitly recite the precise benefits described in the specification to be patentable. *See Uniloc*, 957 F.3d at 1309 (“Claims need not articulate the advantages of the claimed combinations to be eligible.”). Here, the

'495 Patent claims necessarily result in the benefit of allowing for local control, such as in the event of a communications failure, by utilizing two different wireless networks operating on different communications protocols within the same building, because one network can control building components “free of communications” with the other network. In other words, the inventive architecture reflected in the '495 Patent claims provides the necessary functionality delineating *how* the desired benefits are achieved. *See Finjan, Inc. v. Blue Coat Sys., Inc.*, 879 F.3d 1299, 1305 (Fed. Cir. 2020) (explaining the claims “recite specific steps ... that accomplish the desired result”). The jury’s determination on patent eligibility should be affirmed.

IV. The Jury Instructions And Verdict Form On Patent Eligibility Were Proper

A jury verdict will be set aside based on allegedly erroneous jury instructions or verdict form *only* “if the movant can establish that “those instructions were legally erroneous,” *and* “the errors had prejudicial effect.” *Sulzer*, 358 F.3d at 1363. The district court’s jury instructions and verdict form contained an accurate articulation of the *Alice* Step Two inquiry and were not erroneous. Even if *ecobee* could show any error (it cannot), it fails to demonstrate any prejudice, and any such error was harmless.

A. The Jury Instructions And Verdict Form Correctly Stated The Law

The district court enjoys “broad discretion to compose jury instructions, so long as the instructions accurately describe the law.” *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 841 (Fed. Cir. 2010), *aff’d*, 564 U.S. 91 (2011). This Court has “explained that the second step of the *Alice/Mayo* test is satisfied when the claim limitations ‘involve more than performance of ‘well-understood, routine, [and] conventional activities previously known to the industry.’” *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1128 (Fed. Cir. 2018) (citing cases). Indeed, this Court has further explained that “it is of course now standard for a § 101 inquiry to consider whether various claim elements simply recite ‘well-understood, routine, conventional activit[ies].’” *BASCOM*, 827 F.3d at 1349-50.

Following this Court’s clear guidance, the district court instructed the jury based on this well-established articulation of the *Alice* Step Two inquiry:

To meet its burden on this issue, ecobee must show by clear and convincing evidence that the asserted claims of the ’495 patent involve only technology which a person of ordinary skill in the art would have considered to be well-understood, routine, and conventional as of April the 9th, 2004. The mere fact that something was known in the art at the time does not necessarily mean that it was well-understood, routine, and conventional. Rather, the test is whether, in view of all the evidence, a person of ordinary skill in the art would have considered the claim to involve only technology that was well-understood, routine, and conventional as of April the 9th, 2004.

You should consider all the evidence presented during this trial, including the testimony of the witnesses as well as the exhibits

introduced, including the specifications within the patents-in-suit. If the evidence shows by clear and convincing evidence that the elements of the asserted claims, when taken individually or when taken as an ordered combination, involve only technology which a person of ordinary skill in the art would have considered to be well-understood, routine, and conventional, then this element of patent ineligibility has been established.

Appx2138-2141, 1239:15–1242:1; *see also* Appx352-353, 128:13–129:8 (preliminary instructions) (same). Likewise, the jury was asked to answer the correct question of patent eligibility on the verdict form, which recites nearly identical language from the jury instructions. Appx8389. The jury instructions and jury verdict form accurately describe the relevant Step Two inquiry articulated by this Court and neither is legally erroneous.

In addition, “courts must consider the facts of record when instructing the jury.” *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1232 (Fed. Cir. 2014); *see also United States v. Correa-Ventura*, 6 F.3d 1070, 1076 (5th Cir. 1993) (“a trial court is afforded great latitude in determining what instructions are merited by the evidence presented.”). As such, whether “jury instructions” are sufficient depends on the “record” and the relevant “‘context of what happened at trial, including how the parties tried the case and their arguments to the jury.’” *Sulzer*, 358 F.3d at 1363.

Here, the further specificity requested by ecobee was not justified by the evidence at trial. ecobee’s expert testified that there was no inventive concept whatsoever, while Ollnova’s expert testified that the inventive concept was the

implementation of two wireless networks that were free of communication with each other. Appx63. The district court “instructed the jury to consider all of the evidence presented—including Dr. Madisetti’s testimony—to determine whether the invention involves only well-understood, routine, and conventional elements.” Appx63. Because neither party purported that the “inventive concept” was merely the “abstract idea” itself, there was no need to instruct the jury on an aspect of the law that was never argued at trial. Appx63.

At bottom, “[t]his Court reviews jury instructions in their entirety and ‘only orders a new trial when errors in the instructions as a whole clearly mislead the jury.’” *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1304 (Fed. Cir. 2006). Here, the jury instructions and verdict form accurately capture the law on *Alice* Step Two and the arguments at trial, and did not mislead the jury.

B. ecobee’s Challenges To The Jury Instructions And Verdict Form Fail

ecobee and its amici contend that the jury instructions and verdict form were legally erroneous by failing to “(1) inform[] the jury that the claims were directed to an abstract idea, (2) identif[y] what the abstract idea was, or (3) instruct[] the jury that it must exclude that abstract idea when performing the analysis.” Br. 26; *see* SAP.Br.4-7.

Those arguments are wrong. The district court was not required to include additional details on the *Alice* analysis to properly instruct the jury or for the jury to

correctly answer the issue of patent eligibility on the verdict form. *See Sulzer*, 358 F.3d at 1366 (“the particular form and precise nature of jury instructions are matters within the sound discretion of the district court”); *Chiron Corp. v. Genentech, Inc.*, 363 F.3d 1247, 1259 (Fed. Cir. 2004) (“the district court need not use identical language to this court’s opinions in its instructions”).

Notably, *ecobee* does not cite any authority for the proposition that the district court was required to both inform the jury that the ’495 Patent claims were directed to an abstract idea and define the abstract idea for the jury. Br. 25. This is not surprising because there is no such requirement to provide these details for the jury.

Accepting *ecobee*’s position would require courts to always render an opinion on *Alice* Step One before analyzing *Alice* Step Two. But “[d]istrict courts ... are afforded broad discretion to control and manage their dockets, including the authority to decide the order in which they hear and decide issues pending before them.” *Amado v. Microsoft Corp.*, 517 F.3d 1353, 1358 (Fed. Cir. 2008); *see also MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1258 (Fed. Cir. 2012) (rejecting argument that “the subject matter eligibility requirements contained in § 101 to be an ‘antecedent question’ that must be addressed before the court can reach the §§ 102 and 103 issues.”). Exercising its discretion, a district court may decide not to address or define the “abstract idea” in Step One prior to submitting the factual inquiry underlying Step Two to the jury. *See, e.g., Infernal Tech., LLC v. Sony*

Interactive Ent. LLC, No. 2022-1647, 2024 WL 390881, at *9 (Fed. Cir. Feb. 2, 2024) (“The district court submitted the Alice step two question to the jury, which found that the Asserted Claims failed to satisfy the step two test for patentability. After separate, post-trial briefing, the district court held as a matter of law that the Asserted Patents are not drawn to an abstract idea, and thus satisfy the eligibility test of § 101.”).

Indeed, any requirement that a court first address *Alice* Step One conflicts with this Court’s own practice of focusing its eligibility analysis on Step Two without first resolving Step One. *See Amdocs*, 841 F.3d at 1303 (explaining that “even if [the claim] were directed to an abstract idea under step one, the claim is eligible under step two”); *see also, e.g., CosmoKey Sols. GMBH & Co. KG v. Duo Sec. LLC*, 15 F.4th 1091, 1097 (Fed. Cir. 2021) (same); *DDR Holdings, LLC v. Hotels.com L.P.*, 773 F.3d 1245, 1257-59 (Fed. Cir. 2014) (same). As such, *ecobee*’s insistence that a jury always be informed of the “abstract idea” under Step One is wrong when courts are free to consider Step Two without first addressing Step One.⁴

⁴ For these reasons, *ecobee*’s contention that the issue at hand is “akin to asking a jury to determine whether a product infringes a claim without providing the jury the proper construction of that claim” fails. Br. 27. Unlike a disputed claim term that requires construction for the jury prior to its infringement and invalidity analysis, there is no requirement that *Alice* Step One be conducted prior to the jury’s determination of the factual issues underlying Step Two.

Finally, ecobee’s disagreements with the district court’s analysis in the order denying a new trial are meritless. Br. 28-31. For example, ecobee complains that the “District Court misconstrue[d]” its argument below seeking to require the court to separate the “non-abstract elements” for the jury. Br. 29. But that is exactly what ecobee argued in its motion for a new trial and were the arguments that the district court was addressing. Appx2525-2526 (“Like the verdict form, the jury instructions referred to ‘the elements’ of the claims collectively, without distinguishing abstract and non-abstract elements”), Appx2530 (same); Appx62-63. Regardless, ecobee’s insistence that the jury be instructed to “exclude” the abstract idea in performing its Step Two analysis may result in the very issue that the district court was concerned about—that certain claim elements would be disregarded by the jury as “abstract,” while leaving others as “non-abstract” and the only ones for consideration. Appx62-63. As the district court correctly noted, that is not a proper Step Two analysis. Appx62-63.

C. Any Purported Error Was Harmless

ecobee had the burden to show the supposedly erroneous jury instructions and verdict form on patent eligibility were also prejudicial. *Sulzer*, 358 F.3d at 1364. “When the error in a jury instruction ‘could not have changed the result, the erroneous instruction is harmless.’” *Id.* (citation omitted). “To determine whether the erroneous jury instruction was prejudicial, the entirety of the proceedings,

including the jury instructions as a whole, must be considered.” *Id.* ecobee fails to meet its burden to show prejudice, a new trial is not warranted, and jury’s verdict should be affirmed. *See Weinar v. Rollform Inc.*, 744 F.2d 797, 808 (Fed. Cir. 1984) (“Where the procedural error was ‘harmless’, i.e., where the evidence in support of the verdict is so overwhelming that the same verdict would necessarily be reached absent the error ... a new trial would be mere waste and affirmance of the judgment is required.”).

ecobee purports that the district court’s jury instruction and verdict form were “prejudicial” because they somehow “prevented the jury from analyzing whether there was any inventive concept that was ‘significantly more’ than the abstract idea under Step Two.” Br. 27. But, as noted above, ecobee did not make that argument to the jury, or provide the jury with any basis to find in ecobee’s favor on that basis. Appx63. Nor did ecobee argue that the inventive concept identified by Dr. Madisetti was merely the application of the abstract idea itself. ecobee fails to demonstrate “why the jury ‘must have’ decided that the asserted claims’ unconventional technology was the abstract idea itself when *there was no evidence presented at trial* that the inventive concept was ‘controlling generic ‘components’ using information from two separate sources.’” *Id.*

ecobee is also wrong that this case presents a “situation where this Court knows the jury could not have looked for ‘something more’ than the abstract idea.”

Br. 28. ecobee argued its theory of *Alice* Step Two to the jury. ecobee claims that its “expert (Dr. Martens) demonstrated that the additional elements in the claims (those beyond the abstract idea) were well-known and conventional.” Br. 32; *see also* Br. 33 (“Dr. Martens demonstrated that the non-abstract elements of the claims, individually and as an ordered combination, recite solely conventional technologies.”). In other words, ecobee admits that its expert tailored his analysis to only the “additional elements in the claims (those beyond the abstract idea).” This means that the very concept ecobee contends was required to be articulated to the jury was already baked into its presentation to the jury.

In addition, Dr. Madisetti’s identification of the inventive concept went beyond the abstract idea itself, meaning the jury was equipped with the evidence to support its finding. Dr. Madisetti “opined that the inventive concept was a building automation system with ‘two modes’ of control, ‘one where both networks work together to control and one where the first wireless network is operable to control free of communications [with the second network].’” Appx63-64 (citing Appx1692, 1074:10-14). “Nowhere in the Court’s identification of the abstract idea is there any mention of ‘building automation,’ or the requirement that the first network must be ‘free of communications’ with the second network, both of which are present in th[e] [third] limitation.” Appx58. Accordingly, the district court properly observed that

“no one presented evidence to the jury that the abstract idea itself supplied the inventive concept.” Appx64.

For these reasons, ecobee cannot show that the jury would not have reached a different result when the arguments and evidence presented at trial were unaffected by the articulation of the *Alice* Step Two inquiry in the jury instructions and verdict form. *See CytoLogix Corp. v. Ventana Med. Sys., Inc.*, 424 F.3d 1168, 1174 (Fed. Cir. 2005) (“When the error in a jury instruction could not have changed the result, the erroneous instruction is harmless.”) (citation omitted). Because any purported error was harmless, the jury’s verdict should be affirmed.

V. Substantial Evidence Supports The Jury Verdict Of Infringement Of The '371 Patent

The district court correctly ruled that substantial evidence supports the jury’s infringement verdict for the '371 Patent. Appx4; Appx17-24. First, the district court correctly found that Ollnova’s expert, Dr. Madisetti, properly applied the plain and ordinary meaning of the claim terms that were not construed, and that ecobee waived its improper claim construction by failing to seek a limiting construction during trial. Appx.18; *see Solvay S.A. v. Honeywell Int’l Inc.*, 742 F.3d 998, 1004 (Fed. Cir. 2014) (holding claim construction argument waived when party failed to request modification or clarification of the claim construction when the issue surfaced at trial). Second, the district court correctly considered Dr. Madisetti’s testimony on

the merits and found that substantial evidence supports the infringement verdict. Appx17-20.

A. Substantial Evidence Supports The Infringement Verdict

The asserted claims of the '371 Patent all require a “change-of-value update” that is communicated “at regular intervals according to a schedule or until a change-of-value acknowledgment is received.” Ollnova’s expert, Dr. Madisetti, testified that two messages in the accused ecobee products each independently satisfied the “change-of-value update” limitation: (1) the [REDACTED] messages ([REDACTED]s) and (2) the [REDACTED] messages ([REDACTED]s). Appx751-752, 343:7-344:23; Appx2003-2006, 1107:21–1110:9; Appx4134-4135; Appx4139-4140 (PDX2.230-31, 236-37); Appx8394-8400; Appx8401-8408. [REDACTED]s and [REDACTED]s are messages sent from the ecobee thermostat to the ecobee server that provide data updates, including information regarding [REDACTED]s in temperature. Appx699-700, 291:9-292:4; Appx723, 315:2-14; Appx8394-8400; Appx8401-8408. With respect to the [REDACTED]s, Dr. Madisetti testified that they are sent at “a regular interval according to schedule” (i.e., approximately every [REDACTED] minutes) and that they are sent until a change-of-value acknowledgement is received. Appx752, 344:2-12. With respect to the [REDACTED]s, Dr. Madisetti similarly testified that they are sent “according to a schedule at regular intervals” (i.e., approximately every [REDACTED] to [REDACTED] minutes) and that they are sent until a change-of-value acknowledgement is received. Appx751-752, 343:12-344:1;

Appx2004-2005, 1108:25-1109:11. As such, Dr. Madisetti provided substantial evidence that each message independently satisfies the claim language.

In addition, Dr. Madisetti testified that the claim language “generat[ing] a change-of-value update” could mean generating one or more updates. Appx2004, 1108:8-15. Dr. Madisetti further explained that there are two options according to the claim: (1) sending the update at regular intervals, or (2) sending the update until an acknowledgment is received. *Id.* at 1108:16-24. According to Dr. Madisetti, the first part of the claim is satisfied because the [REDACTED] and [REDACTED] messages are in fact sent at regular intervals ([REDACTED] minutes and [REDACTED] to [REDACTED] minutes respectively), and the second part of the claim is satisfied because an [REDACTED] ([REDACTED]) message is received for both types of messages. Appx2004-2006 at 1108:25-1110:9. The district court correctly found that Dr. Madisetti applied the plain and ordinary meaning of the claim language and that his testimony provided substantial evidence supporting infringement.

B. ecobee’s Contrary Arguments Lack Merit

ecobee now contends that the ’371 Patent claims require repeating the communication of the *same* message at “regular intervals.” Br. 48-49. But ecobee (1) waived its claim construction by failing to raise it either at *Markman*, or even during trial, (2) ecobee fails to show that its interpretation is the only reasonable one, and (3) substantial evidence supports the verdict even under ecobee’s construction.

1. The district court correctly ruled that ecobee’s argument amounts to a waived claim construction argument. As the court explained, while ecobee urged after trial that the claims require “sending the ‘*same*’ messages,” it “never sought such a construction at any time prior to, or during, the trial.” Appx21. Thus, any such argument is “waived.” Appx21; *see Solvay*, 742 F.3d at 1004; *Kaufman v. Microsoft Corp.*, 34 F.4th 1360 (Fed. Cir. 2022); *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1341 (Fed. Cir. 2015); *Lazare Kaplan Int’l, Inc. v. Photocscribe Techs., Inc.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010). On appeal, ecobee does not contend that the district court abused its discretion in finding that claim construction argument waived. And ecobee’s protestation that its “argument is *not* based on a claim construction” is not persuasive. Br. 50. ecobee plainly seeks to advance a limiting claim construction by citing the specification, prosecution history, and claim 17 to support its untimely construction of the claim language. Br. 47-48.

2. ecobee’s argument fails under the ordinary meaning. Because it never sought a construction, ecobee must establish that its interpretation of the claim is the “‘*only* . . . reasonable’” one. *Kaufman*, 34 F.4th at 1373 (emphasis added). ecobee comes nowhere close to meeting that high standard. As the district court correctly ruled, nothing in the plain language of the claim requires repeating the *same* message. Dr. Madisetti applied the plain and ordinary meaning of the claim terms

that were not construed by the district court. Dr. Madisetti testified that the absence of the word “same” from the claims meant that there was no such requirement in the claims. Appx2004-2005, 1108:8-1109:11. Dr. Madisetti further testified that sending an [REDACTED] message and then sending another [REDACTED] message [REDACTED] minutes later qualifies as repeating [REDACTED] messages at regular intervals. *Id.* Dr. Madisetti confirmed that the claim could be interpreted this way by explaining that “a” message is not limited to “one message,” but could mean “one or more.” *Id.*; see *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342-43 (Fed. Cir. 2008) (“That ‘a’ or ‘an’ can mean ‘one or more’ is best described as a rule, rather than merely as a presumption or even a convention.... ***The subsequent use of definite articles ‘the’ or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning.***”). In other words, [REDACTED]s are “repeated” in that multiple are sent, even if the messages are not identical.⁵

3. Substantial evidence supports the infringement verdict even under ecobee’s improper construction. ecobee alleges the evidence “irrefutably demonstrated that ecobee’s [REDACTED]s and [REDACTED]s never repeat the same message.” Br.

⁵ ecobee’s citations to *Varma* and *Salazar* are inapposite. Br. 51-52. ecobee’s argument only further confirms that it seeks to improperly raise a new claim construction dispute post-trial by construing the claim to require that “the ***same*** update must be repeated for at least one update.” Br. 52.

50. However, ecobee’s testimony at trial admitted that its servers send an [REDACTED] ([REDACTED]) message when they receive an [REDACTED] or [REDACTED]. Appx1271, 615:11-22; Appx1283, 627:3-9. If the thermostat sends an [REDACTED] or [REDACTED] but does not receive an [REDACTED] message back from the server, the expected operation is that the thermostat would repeat the same [REDACTED] or [REDACTED] until the [REDACTED] message is received from the server. On cross-examination, Dr. Madisetti expressly disagreed with ecobee’s argument that the *same* message is never sent. Appx2018-2019, 1122:9-1123:9. “[W]hen there is conflicting testimony at trial, and the evidence overall does not make only one finding on the point reasonable, the jury is permitted to make credibility determinations and believe the witness it considers more trustworthy.” *MobileMedia Ideas LLC v. Apple Inc.*, 780 F.3d 1159, 1168 (Fed. Cir. 2015).

VI. The District Court Properly Admitted Reliable Damages Testimony

The district court properly admitted the damages opinion of Ollnova’s expert Mr. Bergman. ecobee does not dispute that Bergman calculated damages using a “comparable license agreement.” *Bio-Rad Labs., Inc. v. 10X Genomics, Inc.*, 967 F.3d 1353, 1372 (Fed. Cir. 2020). Bergman relied on a license between Ollnova and [REDACTED], which covered [REDACTED] “smart thermostats” and arose out of [REDACTED]’s settlement of infringement claims involving the ’887, ’282, and ’371 Patents, also asserted against ecobee here. Appx906-08; Appx8409-8438. Instead, ecobee

challenges only two of Bergman's adjustments to account for differences between the [REDACTED] license and the hypothetical negotiation: to account for differences in the number of patents licensed to [REDACTED] versus those found infringed here, and to account for differences in market share.⁶ Those challenges lack merit.

Separately, ecobee challenges the district court's admission of testimony from Ollnova's technical expert regarding marking. That challenge also fails.

A. Mr. Bergman's Adjustment For Portfolio Scope Was Conservative And Properly Accounted For Non-Asserted Patents

Bergman's adjustment for the difference between the [REDACTED] patents covered by the [REDACTED] License and the four patents asserted here was beyond conservative. Even though the [REDACTED] License was driven by three of the same four patents as Ollnova asserted here, Bergman heavily discounted the royalty rate he computed from the [REDACTED] License, by assuming that each asserted patent was worth *no more*

⁶ ecobee does not challenge Bergman's adjustments to account for differences in product type, license term, and the assumption that the asserted patents are valid and infringed. Appx909, 501:16-25; Appx3937. ecobee's footnote mention of Bergman's adjustment for license term confirms that ecobee does not challenge the propriety of this adjustment, ecobee failed to raise this issue before the district court, and "arguments raised in footnotes are not preserved." *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006). In any event, Bergman explained the difference in months between the start of damages in March 2016 through the September 2023 date of trial and through the expiration of the patents in 2031. Appx868, Appx913 ("I took a downward adjustment to the [REDACTED] license to take into account the fact that the hypothetical license would have a shorter period").

than it would be if the value of the [REDACTED] License was allocated evenly among the [REDACTED] covered patents.

The [REDACTED] license arose from litigation in which Ollnova had asserted its '887, '282, and '371 patents—three of the four patents asserted here—against [REDACTED]. Appx8410. The [REDACTED] Agreement states that it “represents a compromise of Ollnova’s potential claims against [REDACTED]” and specifically defines the '887, '282, and '371 patents as “Patents-in-Suit,” which are highlighted in the license grant. Appx8410-412. Consistent with that, although the [REDACTED] license also covered a portfolio of [REDACTED] total patents, the '887, '282, and '371 patents drove the value of the license. Appx914; Appx1233 (“Ollnova specifically called out three of the four patents in this case directly to [REDACTED]”); *see Bio-Rad Lab’s*, 967 F.3d at 1375 (affirming 15% royalty rate for three patents based on portfolio license to 500 patents, where the “technology” that drove the license was “the droplet technology, covered by the three patents-in-suit”); *Prism Techs. LLC v. Sprint Spectrum L.P.*, 849 F.3d 1360, 1369 (Fed. Cir. 2017); *cf. Apple Inc. v. Wi-LAN Inc.*, 25 F.4th 960, 973 (Fed. Cir. 2022). Bergman thus properly testified “that those patents are worth more than the other . . . [REDACTED] patents” licensed by the [REDACTED] Agreement. Appx916-17.

Under this Court’s precedent, Bergman would have been justified in allocating all or at least much of the [REDACTED] license’s value to the asserted patents. *See Vectura Ltd. v. Glaxosmithkline LLC*, 981 F.3d 1030, 1039-40 (Fed. Cir. 2020) (affirmed

royalty rate for one asserted patent based on royalty for portfolio including 400 patents); *Bio-Rad*, 967 F.3d at 1375 (similar). Based on the nearly identical circumstances between the █████ Agreement and the hypothetical negotiation between Ollnova and ecobee—both centered on three of the four Asserted Patents and the same smart thermostat technology—Bergman would not have been required to make any portfolio scope adjustment for his license comparability opinion to be admissible.

Bergman, however, went further. He adjusted the royalty downward by a factor of thirty (4/████), assuming that each of the Asserted Patents was worth no more than any of the other patents licensed in the █████ Agreement. Bergman’s approach was beyond “conservative,” and, if anything, produced an “underestimate” that was too “low,” *i4i*, 598 F.3d at 855.

Despite Bergman’s overly conservative adjustment, ecobee still complains that Bergman failed to account for the “differences” between the █████ license and the hypothetical negotiation. Br. 54 (quoting *Omega*, 13 F.4th at 1378-81). But ecobee misreads *Omega*. This Court faulted the damages analysis there for *identifying* differences in the number of licensed patents, but failing to *account for* those differences. *Id.* at 1381. Here, by contrast, Bergman both accounted for the overlap in asserted patents and adjusted for differences by severely discounting the damages. Contrary to ecobee’s contention, *Omega* does not preclude a damages

expert from making the extremely conservative assumption that the asserted patents are no more valuable than the others in the portfolio, where the undisputed evidence was that they comprised three of the four patents that drove the original portfolio license. *See* p.51, *supra*.

ecobee's two footnoted cases do not suggested otherwise, as neither discusses this Court's jurisprudence on how to account for differences when using a comparable license methodology. Br. 54 n.14. The portion of *Personalized Media Commc'ns, LLC v. Apple, Inc.*, No. 2:15-CV-01366-JRG-RSP, 2021 WL 662237, at *6-7 (E.D. Tex. Feb. 20, 2021), cited by ecobee does not discuss a comparable license methodology but rather a flawed assumption by Apple's expert that Apple's mere ownership of 50 DRM patents meant they were practiced by Apple's FairPlay functionality—here ██████ expressly received rights to Ollnova's entire portfolio that Bergman accounted for by excluding the non-asserted patents' value from his analysis. *Golden Bridge Tech.* rejected a damages theory based on “a maximum, cumulative royalty rate for WCDMA patents” derived from papers the expert “relie[d] on to attempt to predict what a rate would be, but he identifie[d] no evidence that any party ever agreed to such a rate.” *Golden Bridge Tech. v. Apple Inc.*, No. 5:12-CV-04882-PSG, 2014 WL 2194501, at *6 (N.D. Cal. May 18, 2014). This was again not a comparable license methodology, whereas Bergman relies on an actual

license agreement with a manufacturer similarly situated to ecobee for the same smart thermostat technology.

ecobee's miscellaneous complaints regarding whether the '495 or '282 Patents are entitled to equal weight also fail. Br. 55-56. This Court requires only that a damages expert *account* for differences between a comparable license and the hypothetical negotiation for his opinion to be admissible, which Bergman did by subtracting out the value of the non-asserted patents (and then some). The jury could then assess what weight to give that accounting: "even though '[p]rior licenses . . . are almost never perfectly analogous to the infringement action,' if accompanied by testimony accounting for the distinguishing facts, prior licenses may help the jury decide an appropriate royalty award." *Bio-Rad*, 967 F.3d at 1377 (quoting *Ericsson*, 773 F.3d at 1227). Nor is the jury's decision limited to "a royalty specifically articulated by the parties during trial"—it must only "be within the range encompassed by the record as a whole." *Unisplay, S.A. v. Am. Elec. Sign Co.*, 69 F.3d 512, 519 (Fed. Cir. 1995).

B. Mr. Bergman Properly Adjusted For Market Share

For Bergman's market share adjustment, he needed data comparing the smart thermostat sales of ecobee and [REDACTED]. He explained that ecobee's own competitive analysis listed companies, including ecobee, with at least one percent smart thermostat market share, but [REDACTED] did not make that list. Appx911, 503:7-22. The

sole document in the record comparing ██████ and ecobee smart thermostat sales was a report from Jungle Scout that was produced by ecobee from its confidential files. Appx955, 547:15-16; Appx8564-8571. This document showed that ecobee had smart thermostat sales of around 1,000 times that of ██████'s. Appx912-13, 504:2-505:5.

It was reasonable for Bergman to base his market share adjustment on this data, and ecobee's complaint regarding Bergman's market share adjustment amounts to mere dissatisfaction with the evidence Bergman relied upon to compare ecobee and ██████ smart thermostat sales. *See i4i*, 598 F.3d at 854, 856 ("Microsoft's quarrel with the facts Wagner used go to the weight, not admissibility, of his opinion"). It was entirely within the province of the jury to weigh this evidence when calculating its damages award, and ecobee cross-examined Bergman on what it believes were flaws in this data. Appx955-57; *i4i*, 598 F.3d at 855 ("While the data were certainly imperfect, and more (or different) data might have resulted in a 'better' or more 'accurate' estimate in the absolutely sense, it is not the district court's role under *Daubert* to evaluate the correctness of facts underlying an expert's testimony. Questions about what facts are most relevant or reliable to calculating a reasonable royalty are for the jury.")).

ecobee's citation of testimony from Bergman's deposition shows the deficiency in its argument. Br. 57-58 (quoting Appx4570-74). ecobee's failure to

cross-examine Bergman on these criticisms at trial is not grounds to overturn the jury's verdict. ecobee also fails to explain why a market report comparing smart thermostat sales between ██████ and ecobee would not be relevant given undisputed testimony that negotiations for the ██████ Agreement were "limited to smart thermostats." Appx649-50, 241:18-242:6; *see* Appx1233-34.

ecobee cites no case disapproving of a market share adjustment like the one that Bergman performed based on industry sales data for the relevant smart thermostat technology. On the contrary, *Wordtech Sys., Inc v. Integrated Networks Sols., Inc.*, 609 F.3d 1308 (Fed. Cir. 2010), the sole case cited by ecobee, confirms the importance of the evidence Bergman used to compare ecobee and ██████ smart thermostat sales. *Id.* at 1320 (rejecting proffered licenses because the record lacked "any idea of the volume of sales or projected sales").

At bottom, ecobee supplies no reason why a report comparing sales of the smart thermostat products at issue in the same market does not constitute reliable evidence for Bergman's market share adjustment for purposes of comparing the ██████ Agreement to the hypothetical negotiation.

C. The District Court Properly Admitted Madisetti's Testimony That Ollnova's Predecessor Complied With The Marking Requirement

ecobee had the "initial burden of production to articulate the products it believes are unmarked" articles subject to the marking requirement. *Arctic Cat Inc.*

v. Bombardier Rec. Prods. Inc., 876 F.3d 1350 (Fed. Cir. 2017). ecobee elected to identify Siemens’s *generic* APOGEE system, not any specific component or combination of components. Appx46. Dr. Madisetti confirmed that APOGEE as identified by ecobee is not a specific product. Appx763-64, 355:24-356:13; Appx762, 354:21-22 (“it seems to be a brand as opposed to a particular product or a system”). Dr. Madisetti reviewed every produced document on the APOGEE system and concluded that nothing described therein practiced the claims of the Asserted Patents. Appx763, 355:3-11; Appx771-72, 363:5-364:12; Appx8572-8583; Appx8439-8503; Appx8504-8506; Appx8507-8513; Appx8514-8520; Appx8584-8593; Appx8521-8527; Appx8528-8539; Appx8540-8553; Appx8554-8563; Appx8594-8600. His conclusion was supported by a limitation-by-limitation analysis for each of the patents. Appx771-72, 363:5-364:3. ecobee did not challenge Dr. Madisetti’s conclusions by presenting him with any specific component or combination of APOGEE components that would practice claims of the Asserted Patents. Appx46. The district court thus correctly denied ecobee’s motion seeking to exclude his testimony regarding compliance with the marking statute. Appx82.

ecobee’s citation of *Packet Intelligence*, 965 F.3d 1299, does not help it. The issue there involved marking testimony about the wrong product. *Packet Intelligence* relied on the testimony of a witness who was not qualified as an infringement expert in that case, and he “testified to the ultimate question of

noninfringement about a *different* Exar product, MeterWorks.” 965 F.3d at 1314. In contrast, here Dr. Madisetti was unquestionably qualified as an infringement expert and properly testified as to the APOGEE “system” that ecobee identified.

Moreover, in that case, it was “undisputed that NetScout adequately identified Exar’s MeterFlow product” for purposes of *Arctic Cat*, but here no such specific product was identified. *Packet Intel.*, 965 F.3d at 1313; Appx46 (“ecobee never identified specific APOGEE products or a combination of products that practiced the claims when it made its initial production under *Arctic Cat*, but instead identified the APOGEE system *generally*”). The district court correctly held that “the patents are directed to specific configurations and combinations of products, rather than any single product alone.” Appx47 (“*i.e.*, the claims would not be infringed by a thermostat alone”). Thus, “it was reasonable for Ollnova and Dr. Madisetti to argue that ecobee’s failure to point to any combination of products was fatal to its marking theory.” Appx47 (“since ecobee satisfied the [*Arctic Cat*] burden by pointing to the [APOGEE] system generally, the Court is not persuaded that Ollnova’s rebuttal was improper”).

VII. The District Court’s General Verdict Form Was Proper

District courts are accorded “great latitude in the framing and structure of ... ‘[v]erdict forms.’” *In re 3 Star Props., L.L.C.*, 6 F.4th 595, 609-10 (5th Cir. 2021). Moreover, it is well established that “multiple claims” may be submitted to the jury

in a single “general verdict.” *SEB S.A. v. Montgomery Ward & Co., Inc.*, 594 F.3d 1360, 1374 (Fed. Cir. 2010). Thus, as this Court has explained, “a trial court may, with proper instructions, present a patent case to a jury for a **general verdict encompassing all of the issues** of validity and infringement.” *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 720 (Fed. Cir. 1984). Under that precedent, it was entirely appropriate for the district court to submit to the jury a single question asking whether it found any asserted claim infringed. *Cf. Network-1 Techs., Inc. v. Hewlett-Packard Co.*, 981 F.3d 1015, 1025 (Fed. Cir. 2020).

ecobee fails to cite any authority supporting its contrary view. It invokes out-of-circuit cases. Br. 65 (citing *Zhang v. Am. Gem Seafoods, Inc.*, 339 F.3d 1020 (9th Cir. 2003); *Johnson v. ABLT Trucking Co.*, 412 F.3d 1138, 1142 (10th Cir. 2005); *Hager v. Gordon*, 171 F.2d 90 (9th Cir. 1948)). But those cases are inapposite. *Zhang* and *Johnson* address “**inconsistent**” “general verdicts.” *Zhang*, 339 F.3d at 1032; *Johnson*, 412 F.3d at 1142. And the Court in *Hager* did not find fault with the verdict form itself, but pointed to the verdict form to show that an erroneous jury instruction was prejudicial. 171 F.2d at 92-93. *R.R. Dynamics* is similarly inapposite—there, the verdict form involved a single patent, not multiple patents as is the case here. 727 F.2d at 1515. ecobee’s citation of *i4i*, 598 F.3d at 848, and *Hoechst Celanese Corp. v. BP Chemicals Ltd.*, 78 F.3d 1575 (Fed. Cir. 1996), miss

the mark for the same reason—none address the appropriateness of a general verdict covering multiple infringement claims.

ecobee’s “unanimity” argument is waived, as the district court held. Appx70-72. ecobee buries its response to the district court’s waiver finding in a footnote, Br. 67 n.19, but the district court quoted the entirety of ecobee’s objection and found no instance of ecobee’s “unanimity” argument. ecobee waived that objection to the verdict form, and its relegation to a footnote renders it similarly waived on appeal. *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006).

Regardless, the district court instructed the jury that its verdict must be unanimous. Appx1220, 1220:11-21; Appx2202-03, 1303:24-1304:4; Appx72. The jury was also instructed to analyze infringement separately for each asserted claim and to award damages for only those claims found to be infringed, not ineligible, and not invalid. Appx2135, 1236:8-9; Appx2136, 1237:13-15; Appx2128, 1229:8-12; Appx72-73.

Finally, ecobee posits the possibility of a sole infringed claim. Br. 68-69. In such case, under the reasoning of the district court, no reversal would be needed, because each infringed patent is entitled to a maximum damages amount of one quarter of \$47.57 million—*i.e.*, \$11.89 million—which still allows for affirmance of the jury’s \$11.5 million verdict. Appx36-37, Appx41-42 (“the Asserted Patents were all equally valuable to the hypothetical negotiation”).

VIII. Reply Argument On Correctly Setting The Accrual Of Pre-Judgment Interest

ecobee fails to contradict the facts showing that the jury found that the lump-sum reasonable royalty would have been paid as of the 2012 hypothetical negotiation. OB 15. Nor does ecobee contest the fact that the lump sum award was based on ecobee sales made no earlier than six years before the filing of the complaint. OB 17. Thus, the question of setting the date of prejudgment interest accrual is independent of the prohibition of damages for “any infringement committed more than six years prior to the filing of the complaint.” 35 U.S.C. § 286—both damages and prejudgment interest reflect only *infringement* committed during the limitations period. ecobee fails to point out any error in Ollnova’s discussion of this Court’s pronouncements on the independence of the hypothetical negotiation date from other dates, nor does ecobee challenge this Court’s holding that “[p]rejudgment interest runs from the earliest date of infringement for any patent at the time of the hypothetical negotiation.” OB 18-19 (quoting *Comcast IP Holdings I LLC v. Sprint Comm’ns Co.*, 850 F.3d 1302, 1313-15 (Fed. Cir. 2017)).

CONCLUSION

The judgment should be affirmed, subject to an adjustment to the calculation of prejudgment interest.

Dated: March 31, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

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This brief complies with the type-volume limitation of Federal Circuit Rule 32(b)(1), because this brief contains 13,909 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f). Fed. Cir. R. 32(b)(2).

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**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

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