No. 18-1364

United States Court of Appeals for the Federal Circuit

SIPCO, LLC,

Appellant,

v.

EMERSON ELECTRIC CO.,

Appellee.

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Proceeding No. IPR2016-00984

BRIEF OF APPELLEE EMERSON ELECTRIC CO.

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FORM 9. Certificate of Interest **Form 9**
Rev. 10/17

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

SIPCO, LLC **v.** Emerson Electric Co.

Case No. 18-1364

CERTIFICATE OF INTEREST

Counsel for the:
☐ (petitioner) ☐ (appellant) ☐ (respondent) ■ (appellee) ☐ (amicus) ☐ (name of party)

Emerson Electric Co.

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Emerson Electric Co.	Fisher-Rosemount Systems, Inc.	None
	Rosemount Inc.	
	Emerson Process Management LLLP	

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court **(and who have not or will not enter an appearance in this case)** are:

Walter D. Davis, Donald L. Jackson and James D. Berquist of Davidson Berquist Jackson & Gowdy, LLP.

FORM 9. Certificate of Interest **Form 9**
Rev. 10/17

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. *See* Fed. Cir. R. 47. 4(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

- Emerson Electric Co. v. SIPCO, LLC, No. 19-1301 (Fed. Cir.) (appealed from IPR2017-00359) involves U.S. Patent No. 6,437,692 B1 and is currently before this Court.
- Emerson Electric Co., et al., v. SIPCO, LLC, et al., Case No. 1:15-cv-00319-AT (N.D.GA.), in which Appellant previously asserted the patent at issue in this appeal, is currently before the U.S. District Court for the Northern District of Georgia and is currently stayed.
- Emerson Electric Co. v. SIPCO, LLC, CBM2016-00095: The Supreme Court (Case No. 19-966) recently vacated and remanded the decision by the Federal Circuit (Case No. 2018-1635) on appeal from the Board involving a patent related to the patent at issue in this appeal.
- Emerson Electric Co. v. SIPCO, LLC, IPR2016-01895 is currently before the Patent Trial and Appeal Board and involves a patent related to the patent at issue in this appeal.

6/25/2020
Date

/s/ Douglas Hallward-Driemeier
Signature of counsel

Please Note: All questions must be answered

Douglas Hallward-Driemeier
Printed name of counsel

cc: Counsel of Record

Reset Fields

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TABLE OF AUTHORITIES

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Parties

Emerson	Appellee Emerson Electric Co.
Patent Owner	Appellant SIPCO, LLC
Petitioner	Appellee Emerson Electric Co.
SIPCO	Appellant SIPCO, LLC

Patents and Publications

’732 Patent	United States Patent No. 8,013,732
’780 Patent	United States Patent No. 8,754,780
AAPA	Applicant Admitted Prior Art
Burchfiel	J. Burchfiel et al., *Functions and Structure of a Packet Radio Station*, National Computer Conference presented paper, 1975.
Greeves	B. Greeves, *SCADA Uses Radio to Bridge the Gap*, Sensor Review, Vol. 14, No. 2, pp. 31-34, 1994.
Kahn	Robert E. Kahn et al., *Advances in Packet Radio Network Protocols*, Proceedings of the IEEE, Vol. 66, No. 11, Nov. 1978.

Citations

’732 FWD	*Emerson Elec. Co. v. SIPCO, LLC*, IPR2015-01973, 2020 WL 1818683 (P.T.A.B. Apr. 10, 2020)

Defined Terms

Board	Patent Trial and Appeal Board
First Request	SIPCO's First Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration and Request for a Certificate of Correction
Second Request	SIPCO's Second Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration
Third Request	SIPCO's Third Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration
Fourth Request	SIPCO's Fourth Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration
FRAP	Federal Rules of Appellate Procedure
FWD	Final Written Decision
IPR	*Inter Partes* Review
POSITA	Person of Ordinary Skill in the Art
PTAB	Patent Trial and Appeal Board
PRNET	Packet Radio Network
PRU	Packet Radio Unit

STATEMENT OF RELATED CASES

Pursuant to Federal Circuit Rule 47.5(a), counsel for Emerson Electric Co. informs the Court that it partially remanded this appeal for the Board to address what impact, if any, SIPCO's certificate of correction for the '780 patent had on the Final Written Decision by the United States Patent and Trademark Office Patent Trial and Appeal Board. Dkt. 29 at 4. This Court otherwise retained jurisdiction over the appeal and resumed the proceedings on February 4, 2020 after the Board's decision on remand. Dkt. 31 at 1.

Pursuant to Federal Circuit Rule 47.5(b), counsel for Emerson informs the Court that the '780 patent has been asserted in *Emerson Electric Co., v. SIPCO, LLC*, Case No. 1:15-cv-00319-AT (N.D. Ga.), which is presently stayed.

Additionally, the following on-going matters involve patents to which the '780 patent claims relation:

1. *Emerson Electric Co. v. SIPCO, LLC*, No. 19-1301 (Fed. Cir.) (appealed from IPR2017-00359);
2. *Emerson Electric Co. v. SIPCO, LLC*, No. 19-966 (U.S.) (mandate pending to vacate and remand Federal Circuit Case No. 2018-1635, appealed from CBM2016-00095);
3. *Emerson Electric Co. v. SIPCO, LLC*, IPR2016-01895.

COUNTERSTATEMENT OF THE ISSUES

1. Whether this Court lacks jurisdiction over SIPCO's challenge to the Board's decision on remand that the certificate of correction has no retroactive effect, when SIPCO did not file a timely appeal from that ruling, and whether the Board's non-retroactivity determination was, in any event, correct such that '780 Claims 1-15 are unpatentable over the '732 patent.

2. Whether collateral estoppel precludes SIPCO from contesting the Board's unpatentability rulings regarding '780 Claims 1, 2, 4, 6-10, and 12-15, when substantially identical claims of the '732 patent have already been held unpatentable in a final unappealed decision by the PTAB.

3. Whether the Board's further finding that Claims 1, 2, 4, and 6-8 are unpatentable as obvious over Kahn in combination with other prior art is supported by substantial evidence.

COUNTERSTATEMENT OF THE CASE

This appeal arises from *inter partes r*eview of Claims 1-15 of U.S. Patent No. 8,754,780 (the '780 patent), in which the Board found all claims unpatentable as obvious over the nearly identical specification and claims of U.S. Patent No. 8,013,732 (the '732 patent), and found six of the claims unpatentable as obvious over other prior art as well. SIPCO's challenges to the Board's determinations are procedurally barred, substantively unavailing, or both.

The Board's obviousness ruling on the basis of the '732 patent is sufficient to dispose of SIPCO's appeal. While SIPCO principally tries to avoid that ruling on the basis of a later-issued certificate of correction, the Board correctly ruled that the certificate did not operate retroactively. Moreover, this Court lacks jurisdiction to review the Board's non-retroactivity determination because SIPCO failed to file a timely appeal from it. Though the Court need not reach the issue, SIPCO's separate failure to appeal from a final decision of the Board holding substantially identical claims of the '732 patent unpatentable collaterally estops SIPCO from re-litigating here the validity of Claims 1, 2, 4, 6-10, and 12-15 of the '780 patent. Finally, SIPCO's challenge to the Board's alternate findings—that Claims 1, 2, and 7 are obvious over Kahn in view of the prior art that was admitted by the applicant in the '780 patent (the "Applicant Admitted Prior Art" or "AAPA"), and that Claims 4, 6, and 8 are obvious over Kahn in view of the AAPA and Burchfiel—fails to overcome the Board's well-reasoned and well-supported decision.

A. Background

The '780 patent, entitled "Systems and Methods for Monitoring and Controlling Remote Devices," generally relates to a system or method for monitoring and controlling remote devices by transmitting data between the remote devices and a controller using a packet message protocol. Appx91. Such systems

may be used, for example, to monitor vehicle diagnostics, total combined rainfall and sprinkler supplied water, or access gate position. Appx113 (7:43-47).

When the ’780 patent was filed, its supposed parent applications had already issued prior to the ’780 patent’s filing date. Appx91; Appx132-135. As a consequence, there was no co-pendency between the ’780 patent and its putative parent, without which the ’780 patent is entitled to an effective filing date of only its *actual* filing date: April 2, 2013. *See* 35 U.S.C. § 120.

B. The ’780 Patent

The system of the ’780 patent “is implemented by using a plurality of wireless transmitters, wherein each wireless transmitter is integrated into a sensor adapted to monitor a particular data input.” Appx91 (Abstract). Figure 2 depicts the monitoring and control system of a preferred embodiment of the invention. Appx93; Appx111 (4:50-51); Appx113 (7:42-65). Control system 200 includes one or more sensor/actuators 212, 214, 216, 222, and 224, which are each integrated with a transceiver. Appx112 (6:7-9). The control system also includes a plurality of stand-alone transceivers 211, 213, 215, and 221. Appx112 (6:24-26). Local gateways 210 and 220 receive transmissions from the transceivers and analyze and convert these transmissions as necessary in order to retransmit the information via a wide area network. Appx112 (6:46-49).

Claim 1, which is representative of the '780 patent, is directed to "a system comprising a plurality of wireless devices," which themselves have two elements: a "transceiver" and a "controller." Appx135-136; Appx118-119 (18:53-19:4). At issue in this appeal is the limitation of the controller, which is "operatively coupled to the transceiver and the sensor, the controller configured to … receive data from the sensor." Appx118-119 (18:66-19:4).

The '780 patent also describes that the transmitted data packets include a function code. Appx114 (9:3-7). "[A] given and unique function code" may be assigned to each button pressed on a radio frequency transmitter and may "accommodate additional functions or features of a given transmitter." Appx114 (9:17-32).

C. Prior Art

1. *The '732 Patent*

U.S. Patent 8,013,732 issued on September 6, 2011, approximately one year and seven months before the '780 patent application was filed. Appx941. Though identified as a related patent, the '732 patent is prior art because the '780 patent lacks co-pendency with the patents and applications to which it claims priority. *See* Appx91.

The '732 patent has a nearly identical specification as the '780 patent, including the verbatim "Technical Field," "Background," "Summary of Exemplary

Embodiments," "Brief Description of the Figures," and "Detailed Description of Preferred and Alternative Embodiments" sections. Appx989-1007. *Compare* Appx110-119 *with* Appx941-988. The '732 patent also discloses the same applicant admitted prior art as the '780 patent. Appx989-1007; *see also Emerson Elec. Co. v. SIPCO, LLC*, 745 F. App'x 369, 373 (Fed. Cir. 2018). Likewise, Claims 13-25 of the '732 patent contain all of the same substance as, respectively, Claims 1-15 of the '780 patent. Appx1008-1009; *compare* Appx118-119 (18:53-20:36) *with* Appx987-988 (20:1-21:27).

2. *Kahn*

Published in November 1978 in the "Proceedings of the IEEE," Kahn provides an overview of the basic concepts of packet radio, including a description of the packet radio network ("PRNET") at the time. Appx1071-1072 (¶34). The PRNET was a multi-hop, multi-access packet radio network sponsored by the Advanced Research Projects Agency ("ARPA") with influence from ARPANET. *Id*. Indeed, the PRNET was normally connected to the ARPANET, which later became known as the internet. Appx1036.

The original purpose of the packet radio development work was for military computer communications, particularly given its "flexibility in rapid deployment and reconfiguration." Appx1011; Appx1071-1072 (¶34). But Kahn explains that the basic concept of a packet radio network is applicable to "an extremely wide

range" of communication applications. Appx1071 (¶34). PRNET connects user terminals to other terminals or to computer resources (hosts). Appx1011; Appx1072-1073 (¶36). Through the PRNET, users can send and receive data from a user terminal to a remote terminal. Appx1011; Appx1072-1073 (¶36).

The PRNET relied on stations in the global management of the radio network. Appx1019. Kahn describes two general categories of routing options, point-to-point and broadcast, and the protocols that implement them. Appx1018; Appx1021-1022. The station determines the routes to each of the radios in its network, and assigns all routes that each radio is to use based on information sent to it by each of the radios. Appx1019. The station also determines the overall connectivity of the network, and determines good routes from each radio to itself. *Id.*

Each packet radio is comprised of a radio section and a digital section. Appx1011; Appx1071-1072 (¶34). The radio section contains the antenna, RF transmitter/receiver (*i.e.*, a transceiver), and all signal processing and data detection logic. Appx1011. The digital section contains a microprocessor and memory for packet buffering and software. Appx1071-1072 (¶34). The microprocessor controls the radio by selecting the transmission frequency, data rate, power, and time of transmission. *Id.* The microprocessor also performs packet processing to route the packet through the network. Appx1011; Appx1071-1072 (¶34). Data entered by a user at a terminal is detected by the digital section of the radio, which adds some

network routing and control information and passes the packet to the radio section for transmission. Appx1019; Appx1072 (¶34).

3. *Applicant Admitted Prior Art*

In the '780 patent, the applicants make several relevant admissions regarding the scope of the prior art, or the Applicant Admitted Prior Art ("AAPA"). The '780 patent describes a variety of known "systems for monitoring and controlling manufacturing processes, inventory systems, emergency control systems, and the like." Appx110 (1:60-62); Appx1075-1076 (¶39). Representative systems include "[h]eating, ventilation, and air-conditioning systems, [and] fire reporting and damage control systems[.]" Appx110 (2:34-38); Appx1075-1076 (¶39). Most of these known "systems use remote sensors and controllers to monitor and automatically respond to system parameters." Appx110 (1:62-65). "A number of control systems utilize computers to process system inputs, model system responses, and control actuators to implement process corrections within the system." Appx110 (1:65-67).

Figure 1 "is a block diagram of a prior art control system." Appx111 (4:49). Prior art control system 100 includes a plurality of sensor/actuators 111-117. Appx1075-1076 (¶39); Appx112 (5:41-45). The sensors are "electrically coupled to a local controller 110," which "provides power, formats and applies data signals from each of the sensors to predetermined process control functions, and returns control signals as appropriate to the system actuators," in "a manner well known in the art of control systems." Appx112 (5:45-50).

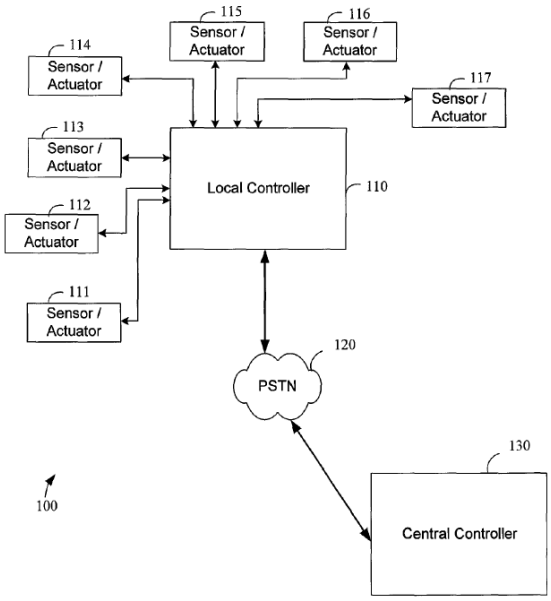

FIG. 1
(PRIOR ART)

"The typical approach" to implement these well known control systems involved "install[ing] a local network of hard-wired sensors and actuators along with a local controller." Appx110 (2:44-47). The '780 specification described the wiring between the elements of the prior art system as "a dangerous and expensive proposition." Appx112 (5:57-6:3); *see also* Appx110 (2:41-44) (describing "problem with expanding use of control systems technology" as "costs associated with sensor-actuator infrastructure required to monitor and control functions").

4. *Burchfiel*

Entitled "Functions and structure of a packet radio station," Burchfiel was published as part of the American Federation of Information Processing Societies ("AFIPS") 1975 National Computer Conference Proceedings, and has an author in common with Kahn. Appx1041. Kahn cites to Burchfiel for additional information on the functions of a packet radio station, as described in Kahn. Appx1019 (col.1); Appx1038; Appx1073-1074 (¶37); Appx82.

Burchfiel describes packet radios as performing control functions such as "establishing control, debugging, and measur[ing] connections from the station to each repeater that it controls." Appx1043 (col.1); Appx1073-1075 (¶¶37-38). These functions are indicated by a "function field." Appx1074-1075 (¶38). "The 'function field' provides an address within a [packet radio], it selects the control process, the debugging process, or the measurement process." Appx1043 (col.1; Fig. 3) (depicting the protocol for a packet radio network including a "function" field in the protocol); Appx1074-1075 (¶38).

D. *Inter Partes* Review Proceeding

On April 29, 2016, Emerson filed a Petition for *Inter Partes* Review, challenging the claims of the '780 patent across three separate grounds: (i) Claims 1-15 are unpatentable under 35 U.S.C. § 103(a) over the '732 patent; (ii) Claims 1, 2, and 7 are unpatentable under § 103(a) over Kahn in view of the AAPA; and (iii)

Claims 4, 6, and 8 are unpatentable under § 103(a) over Kahn in view of the AAPA and Burchfiel. On November 2, 2016, the Board instituted *inter partes* review on these grounds.

1. *SIPCO's Repeated Failed Attempts to Obtain a Certificate of Correction*

On May 26, 2016, nearly a month after Emerson filed its Petition, SIPCO filed with the Petitions Branch of the U.S. Patent and Trademark Office a Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration and Request for a Certificate of Correction ("First Request") to alter the priority claim for the '780 patent from U.S. Application No. 13/173,499 to U.S. Application No. 13/222,216, asserting that this application shared co-pendency with the '780 patent's application. Appx232; Appx1329-1330. Notwithstanding Emerson's IPR Petition, SIPCO did not seek the Board's permission to file its First Request or otherwise notify the Board or Emerson. Appx232. Instead, Emerson learned of SIPCO's First Request through a search of the Public Patent Application Information Retrieval system, and subsequently informed the Board. *Id.*; Appx3072.

The Board then stayed the First Request pending its decision on institution, and confirmed that the Board's authorization is required before filing any papers with the Patent Office during the IPR. Appx233-234. Upon instituting trial, the Board lifted the stay on SIPCO's First Request. Appx363.

The Petitions Branch subsequently denied SIPCO's First Request because it lacked the required Application Data Sheet. Appx3404-3405 (citing 35 U.S.C. § 120; 37 C.F.R. § 1.78(d)(2)).

SIPCO then requested and received authorization from the Board to file a second Request for a Certificate of Correction and Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration ("Second Request"). Appx389. The USPTO denied the Second Request because the chain of priority in SIPCO's Second Request did not match the chain of priority in either U.S. Patent Application No. 12/477,329 or the resulting '732 patent. Appx1801-1802. Thus, to correct the '780 patent, SIPCO first needed to correct the '732 patent. Appx1802.

SIPCO then sought the Board's authorization to file a third Request for a Certificate of Correction and Petition to Accept an Unintentionally Delayed Priority Claim and for Expedited Consideration ("Third Request"). Appx482. The Board allowed SIPCO an opportunity to show good cause as to why SIPCO's request should be granted. *Id.* After considering the nature of SIPCO's First and Second Requests and the grounds for their denials, as well as SIPCO's assertion that flaws in the Second Request were "due to an inadvertent omission," the Board denied SIPCO's Third Request—effectively staying SIPCO's further attempt to seek correction. Appx528. The Board found that SIPCO failed to provide "any particular

circumstances that would justify its mistakes" and that SIPCO's "repeated mistakes indicate deliberate indifference toward avoiding errors." Appx527 (citing Appx522 (citing Appx3391-3395 ¶¶5-12; Appx3061-3066 ¶¶1-26, 29)).

The Board also denied SIPCO's rehearing request, clarifying that it did not "overlook Patent Owner's explanation" for its previous errors, but rather "did not find it compelling." Appx555. The Board explained that SIPCO "made several errors and mistakes throughout [its] attempts to make a claim of priority with respect to" the '780 patent, including (1) during prosecution of the application leading to the '780 patent, (2) during prosecution of the application to which SIPCO seeks to claim priority, and (3) in the First Request and Second Request. *Id.* (citations omitted).

2. *Final Written Decision*

In its Final Written Decision ("FWD") dated October 25, 2017, the Board found that the '780 patent was entitled to priority only to its filing date, because it lacked co-pendency with the application to which it had attempted to claim priority. Appx46. Based on this priority date, the Board considered the '732 patent prior art. Appx57-58.

The Board agreed with Emerson "that any differences in claim language between the '780 claims and '732 corresponding claims are non-substantive and that any differences are taught by the '732 specification and would have been obvious in view of the '732 patent specification and claims." Appx55. SIPCO did not dispute

these findings. Appx57. Consequently, the Board determined that Emerson "demonstrated by a preponderance of the evidence that Claims 1-15 of the '780 patent are unpatentable under § 103 as obvious over the '732 patent." Appx58.

The Board also found that claims 1, 2, and 7 were unpatentable as obvious over Kahn in view of the AAPA. Appx62-82. The Board agreed with Emerson's arguments—often undisputed by SIPCO—that Kahn taught many of the limitations of independent claim 1. Appx64; Appx79-80. However, the Board found that Kahn alone does not teach "that the transceiver is 'electrically interfaced with a sensor.'" Appx64. Instead, the Board relied on the AAPA's teaching "that prior art control systems included sensors and actuators that were hard-wired to controllers," including as shown in Figure 1. Appx66 (citing Appx92; Appx112 (5:41-46, 5:57-58, 5:66-6:3)).

Based on the AAPA's disclosures and the testimony of Emerson's expert, Dr. Heppe, the Board agreed that a person of ordinary skill in the art ("POSITA") would have understood that Kahn's controller could be coupled to the AAPA's sensors and actuators. Appx66-67 (citing *e.g.*, Appx162; Appx167; Appx110 (1:60-67); Appx1077-1079 (¶42)). The Board further agreed with Petitioner that (i) "the controller in Kahn controls the transceiver because it selects the transmit frequency, data rate, power, and time of transmission for the transceiver" and (ii) "data from the [A]APA sensors would have been received by Kahn's controller, and that Kahn's

controller would have assembled the data into packets for transmission by the transceiver." Appx80-81; *see also* Appx165-166.

The Board found that a POSITA would have been motivated to combine these teachings from Kahn and the AAPA, based on "Kahn's teachings that use of a PR network avoids a known problem in the art, the need to install physical wires and cables to connect network components." Appx67 (citing Appx1011). Relying in part on Dr. Heppe's testimony, *see* Appx69-70, the Board agreed that "Kahn discloses that packet radio networks 'permit mobile [(e.g., wireless)] application over a wide geographic area' and '[t]he use of broadcast radio technology for local distribution of information can also provide a degree of flexibility in rapid deployment and reconfiguration not currently possible with most fixed plant [(e.g., wired)] installations.'" Appx67-68 (quoting Appx1011 (col.1)).

The Board also found that Greeves, a journal article, corroborated that a POSITA "would have understood that a benefit of wireless network links over physical links was flexibility in rapid deployment and reconfiguration." Appx68-69 (citing Appx502-503; Appx505); *see also* Appx2279-2280. The Board determined that Emerson properly relied upon Greeves to "reply to an argument by Patent Owner in the Response," and that SIPCO (which had introduced Greeves) had sufficient opportunity to address Greeves at the hearing. Appx73-74; *see* Appx672-677; Appx400. The Board relied on Greeves to "assess[] the background knowledge of

a person of ordinary skill in the art, and in particular, whether Greeves corroborates Petitioner's arguments made at the petition stage about the prior art." Appx74

The Board concluded that "a skilled artisan would have recognized that an advantage of using *wireless* packet radio networks was to avoid the need for *wires*, and that the skilled artisan would have been motivated to use a wireless packet radio network [disclosed in Kahn] in order to permit mobile applications and to enhance flexibility in rapid deployment and reconfiguration not currently possible with wired installations [disclosed in the AAPA]." Appx70.

The Board found that the '780 patent's "express disclosure that 'appropriately wiring an existing industrial plant can be a dangerous and expensive proposition,' indicates that it was well known [in the prior art] that wiring could be costly." Appx71-72 (citing Appx112 (5:57-6:3)). The Board found corroboration of the AAPA's motivation in the testimony of SIPCO's expert, Dr. Almeroth, Appx72 (citing Appx2217 (¶104) (characterizing "expense of installing wiring" as "a well known problem in the art")), in Greeves, *id.* (describing radio as "relatively cost-effective" (citing Appx502-503)), and in Dr. Heppe's opinion. *See* Appx72.

The Board also found that Kahn's teaching that "using a wireless PR network" for the "local distribution of information" increased "flexibility in rapid deployment and reconfiguration," and that the AAPA's teaching of a "locally distributed network that is hard-wired and that includes sensors and actuators" provided further

motivation to combine by "suggest[ing] an advantage to implementing a network of sensors and actuators wirelessly, namely to increase flexibility in rapid deployment and reconfiguration." Appx77-78.

The Board extensively addressed and rejected SIPCO's arguments concerning whether a POSITA would have been motivated to combine Kahn's teaching of a wireless PR network with the AAPAs teaching of sensors and actuators. Appx71-81. The Board concluded that "[C]laims 1, 2, and 7, are unpatentable under § 103 as obvious over Kahn in view of the [A]APA." Appx81-82.

The Board also found that Claims, 4, 6, and 8 (but not 5) of the '780 patent were unpatentable as obvious over Kahn in view of Burchfiel and the AAPA. As is relevant on appeal, the Board found that a POSITA "would have looked to Burchfiel for further description of the functions described in Kahn" because Kahn cites to Burchfiel for this very information. Appx83. Based on Burchfiel's description of "radios as performing control functions" indicated by a function field, the Board agreed "that Burchfiel discloses the PR network controller receiving data packets comprising a function field and in response to the field implementing a process." Appx82-83. The Board also agreed "that the combination of Kahn and Burchfiel teaches a memory to store a function field corresponding to the packet radio, the function fields corresponding to a number of processes the controller can implement." Appx84.

In particular, the Board construed "function code" to mean "bits of data corresponding to a function." Appx85. Thus, the Board explained that Burchfiel's function field "is a function code because the address in the function field comprises bits of data, and it corresponds to a process (e.g., a function), namely a control process, debugging process, or measurement process, because when a packet radio unit ("PRU") receives the address in the function field, the PRU selects the process corresponding to the address." *Id.* Likewise, the Board "construed 'function' to encompass 'features' or 'parameters' of a system, and 'capabilities' and 'tasks to be performed.'" Appx86. Thus, the Board found that "the processes disclosed in Burchfiel are functions because the processes are tasks to be performed." Appx86.

In conclusion, the Board found Claims 1-15 unpatentable as obvious over the '732 patent, Claims 1, 2 and 7 unpatentable as obvious over Kahn in view of the AAPA, and Claims 4, 6 and 8 unpatentable as obvious over Kahn in view of the AAPA and Burchfiel. Appx88. The Board also "lift[ed] the stay prohibiting Patent Owner from filing Patent Owner's Third Request" and allowed SIPCO to file the Third Request. Appx49.

On December 21, 2017, Patent Owner filed a Notice of Appeal for review of the Final Decision. Appx773-774.

3. *Certificate of Correction*

On December 7, 2017, SIPCO filed its Third Request with the Petitions Branch. Appx9. However, the Petitions Branch dismissed SIPCO's request again for failure "to make reference to the first (earliest) application and every intermediate application." *Id.*

On January 30, 2018 (after this appeal was docketed), SIPCO filed yet another Petition to Accept an Unintentionally Delayed Priority Claim ("Fourth Request"), which was granted on Feb. 8, 2018. Appx9; Appx3615. The Petitions Branch issued the certificate of correction on March 27, 2018. Appx3612. The '780 patent expired months later on June 22, 2018. Appx91.

4. *Partial Remand*

On May 3, 2018, SIPCO moved for remand based on the certificate of correction for the '780 patent. This Court partially remanded as to claims 3, 5, and 9-15 for the Board to address "what, if any, impact the certificate of correction has on its final written decision in this case." Dkt. 29 at 3-4. This Court stayed the remainder of the appeal, instructing the parties "to inform this court how they believe this appeal should proceed" within seven days of the decision on remand and explaining that "[a]ny appeal from the Board's decision on this issue will be consolidated with this appeal." *Id.*

On remand, the Board found that SIPCO's certificate of correction for the '780 patent has no impact on its Final Written Decision. The Board analyzed Section 255's language that a corrected patent "shall have the same effect and operation in law on the trial of actions for causes *thereafter arising* as if the same had been originally issued in such corrected form." Appx17 (quoting 35 U.S.C. § 255 (emphasis added)). Assuming that *inter partes* review is a "trial of actions," the Board found that "under the express language of the statute, the Certificate would not impact the trial" because SIPCO did not seek correction until *after* Emerson filed its Petition and the certificate issued "well after" the IPR commenced. Appx18. Even assuming, that *inter partes* review is not a "trial of actions," the Board found that "[i]nferring retroactivity would be inconsistent with the plain language" of § 255, which addresses "only prospective application of a certificate of correction." *Id.*

The Board next examined Section 255's sister provisions: Section 254 on correction of mistakes by the Patent Office and Section 256 on correction of inventorship. Appx18-19. Considering Section 254's identical "thereafter arising" language, the Board found Sections 254 and 255 "expressly give effect to a certificate on a trial of actions for causes arising after the certificate issues," and otherwise provide no support for their retroactive effect. Appx19-20 (citing *Southwest Software, Inc. v. Harlequin Inc.*, 226 F.3d 1280, 1295 (Fed. Cir. 2000) (confirming certificate of correction applies "at all times after its issue date")). In

contrast, the Board found that § 256's provision that "a patent shall not be invalidated if inventorship is corrected" expressly provides for retroactive effect of a certificate correcting named inventorship." Appx20-21.

The Board explained that its interpretation was consistent with the Board's authority over IPR proceedings. Appx21-23. Because the Director has delegated to the Board the "authority to determine the manner in which *inter partes* review, and … a request for certificate of correction, is to proceed," 35 U.S.C. § 315(d); 37 C.F.R. §§ 42.3, 42.122, the Board found that, once an IPR has been filed, "it is within [its own] discretion to stay or prohibit filing a certificate of correction, thereby avoiding potentially conflicting outcomes" between decisions on the IPR and request for correction. Appx21-22. The Board further explained that such a stay "prevents a moving target…for the parties and for the Board." Appx22-23 (citing 35 U.S.C. § 316(a)(11)). The Board confirmed that retroactive application of a certificate of correction would be inconsistent with its discretion over whether "to stay or prohibit filing of a request for a certificate of correction during an *inter partes* review." Appx22-23. The Board also found that the patent owner, who through diligence could avoid or timely correct its own error, should bear the risk of such an error, rather than the unsuspecting public. Appx23-24.

The Board rejected SIPCO's assertion that the Board "agree[d] that a decision by the Petitions Branch or Certificates of Correction Branch should impact the Final

Decision." Appx24-25. The Board explained that it exercised its discretion over *inter partes* review and appropriately deferred to the Petitions Branch on "whether a certificate of correction should be issued." Appx25 (citing *Honeywell Int'l Inc. v. Arkema Inc.*, 939 F.3d 1345, 1349 (Fed. Cir. 2019)). The Board concluded that "the Certificate, which issued after the Final Decision and after Patent Owner filed an appeal to the Federal Circuit, has no impact on the Final Decision in this case because it was not in effect during the proceeding." Appx25-26.

SIPCO informed this Court of the Board's decision on remand and proposed a briefing schedule for the earlier appeal from the Final Written Decision, which had been stayed. Dkt. 30 at 1. SIPCO did not file a notice of appeal from the decision on remand.

5. *The '732 Final Written Decision on Remand*

Simultaneous with the '780 proceeding, the Board examined the patentability of the '732 patent, including challenges to substantially identical claims on the same grounds. *Emerson*, 745 F. App'x at 372. This Court vacated and remanded the Board's original finding that Emerson had not met its burden to show unpatentability of the '732 patent, because the Board "came to opposite conclusions on patentability of these nearly identical claims despite considering nearly identical evidence" in this proceeding involving the '780 patent. *Id.* at 373-374. On remand, the Board made new findings on the patentability of the '732 patent consistent with its findings in

this proceeding involving the '780 patent. *See Emerson Elec. Co. v. SIPCO, LLC*, IPR2015-01973, 2020 WL 1818683 at *12-13 (P.T.A.B. Apr. 10, 2020) (hereinafter the '732 FWD) (crediting Dr. Heppe's testimony and disclosures of AAPA to find "motivat[ion] to couple Kahn's controller with the APA's sensors and actuators in order to assemble data packets containing the data from the sensors"). The Board found claims 13, 14, 16, 18-21, 23-26, 28-33, and 35 of the '732 patent unpatentable as obvious over Kahn in view of the APA and in further view of additional prior art references. Id. at *32. SIPCO did not appeal the '732 FWD.

SUMMARY OF THE ARGUMENT

SIPCO's attempts to revive the '780 patent fail on both procedural and substantive grounds. *First*, as the Board found, all of the '780 patent claims are unpatentable as obvious over the '732 patent. Though SIPCO sought and received a certificate of correction changing the '780 patent's priority date, that certificate did not issue until *after the '780 FWD issued and SIPCO filed this appeal*. That certificate of correction does not apply retroactively according to the plain language of 35 U.S.C. § 255, which expressly limits the impact of certificates of correction to "trial of actions for causes thereafter arising." Thus, the '780's certificate of correction has no effect on the Board's previously issued Final Written Decision. Moreover, SIPCO forfeited the opportunity to seek review of the Board's decision on remand holding the certificate of correction non-retroactive, because SIPCO

failed to appeal from that ruling. The Board's unappealed ruling is sufficient to dispose of SIPCO's appeal.

Second, collateral estoppel arising from SIPCO's failure to appeal the '732 FWD provides an independent ground to affirm unpatentability as to all but three of the '780 patent's claims. SIPCO is now collaterally estopped from re-litigating the patentability of Claims 1, 2, 4, 6-10, and 12-15 of the '780 patent, because those claims are substantially identical to claims of the '732 patent that have been found unpatentable in a now-final, unappealed decision by the Board in IPR2015-10973.

Finally, although the Court need not reach these issues, SIPCO cannot overcome the substantial evidence supporting the Board's findings of obviousness over Kahn in view of the AAPA and in further view of Burchfiel. The Board's decision that a person of ordinary of skill in the art would have been motivated to use wireless transceivers in place of wires in a control system with sensors and actuators to enhance flexibility in rapid deployment and reconfiguration not currently possible with wired installations is amply supported by Kahn, the AAPA, and Greeves, as well as the testimony of both parties' experts. The Board's application of Burchfiel's teachings as expressly directed in Kahn is similarly supported by substantial evidence. The Board's obviousness findings should be affirmed.

STANDARD OF REVIEW

The Board's decision to grant or deny a request to seek a certificate of correction is analyzed for abuse of discretion. *Honeywell*, 939 F.3d at 1348; *see also Redline Detection, LLC v. Star Envirotech, Inc.*, 811 F.3d 435, 442 (Fed. Cir. 2015). "Abuse of discretion is a highly deferential standard of appellate review." *Bayer CropScience AG v. Dow AgroSciences LLC*, 851 F.3d 1302, 1306 (Fed. Cir. 2017). An abuse of discretion occurs "if the decision: (1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact findings; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Honeywell*, 939 F.3d at 1348.

This Court reviews the Board's factual determinations for substantial evidence and its legal determinations *de novo*. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015). Obviousness is a question of law based on subsidiary findings of fact "regarding the scope and content of the prior art, differences between the prior art and the claims at issue, [and] the level of ordinary skill in the pertinent art." *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013). Likewise, this Court examines the Board's "finding of a motivation to combine for substantial evidence." *Allied Erecting & Dismantling Co. v. Genesis Attachments, LLC*, 825 F.3d 1373, 1380 (Fed. Cir. 2016). Substantial evidence requires "such

relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. of N.Y. v. NLRB*, 305 U.S. 197, 229 (1939).

ARGUMENT

I. This Court Should Affirm the Board's Findings that Claims 1-15 Are Unpatentable Over the '732 Patent

SIPCO does not dispute that the '732 patent anticipates the '780 Claims. Instead, SIPCO contends the '732 patent is not prior art because the '780 patent claims priority to it based on a certificate of correction that issued after the Board's FWD. SIPCO asserts that the Board erred by refusing to grant, until after the FWD issued, SIPCO's Third Request to petition for a certificate of correction, and that this Court must give effect to the now-issued certificate. That argument is both procedurally and substantively flawed.

On remand the Board concluded that, by statute, "a certificate of correction for an applicant's mistake … does not receive retroactive application." Appx19-20. The Board thus held that "the certificate of correction ([Appx3612-3617]) has no impact on the Final Written Decision." Appx26; Blue Br. at 19. Despite clear directives from the Board and this Court, SIPCO failed to file a notice of appeal from the Board's decision on remand, and thus has forfeited any argument that the now-issued certificate of correction should be given retroactive effect. Even if not procedurally barred, SIPCO's argument would fail as a legal matter because, as the Board found, certificates of correction do not apply retroactively. Moreover, the

Board did not err in staying SIPCO's Third Request until it issued a Final Written Decision in light of the deliberate indifference reflected in SIPCO's requests. For these reasons, the Board's determination that Claims 1-15 are unpatentable as obvious over the '732 patent should be affirmed.

A. *By Not Appealing the Board's Decision on Remand, SIPCO Forfeited Any Argument that the Now-Issued Certificate of Correction Affects This Appeal*

Despite repeated warnings from the Board and this Court, SIPCO did not file the required notice of appeal for the Board's decision on remand. The notice and timing requirements for taking an appeal are "mandatory and jurisdictional." *Bowles v. Russell*, 551 U.S. 205, 209 (2007) (concerning time limits under FRAP 4 for appeal from district court); *Torres v. Oakland Scavenger Co.*, 487 U.S. 312, 318 (1988) (concerning notice requirements of FRAP 3); *Oja v. Dep't of Army*, 405 F.3d 1349, 1358-59 (Fed. Cir. 2005) (applying rationale for finding FRAP 4 requirements "mandatory and jurisdictional" to FRAP 15, concerning review of agency action). Both this Court and the Board noted that a challenge to the Board's decision on remand would require a separate appeal.[1] This Court's remand order provided that "[a]ny appeal from the Board's decision on this issue [on remand] will be consolidated with this appeal." Dkt. 29 at 4. The Board likewise instructed the

[1] During the parties' meet and confer after the Board's decision on remand, counsel for appellee informed counsel for the appellant that it needed to decide which issues it was going to appeal.

parties to "comply with the notice and service requirements of 37 C.F.R. § 90.2" to appeal. Appx26.

A notice of appeal must be provided to the Director of the USPTO "no later than 63 days after" the Board's decision. 37 C.F.R. § 90.3(a)(1); *see* 35 U.S.C. § 142. Such notice must be filed with the Director of the USPTO and the PTAB and must "provide sufficient information to allow the Director to determine whether to exercise the right to intervene in the appeal." 37 C.F.R. § 90.2.

SIPCO informed this Court of the Board's decision on remand, and that the parties were prepared to proceed with briefing. Dkt. 30 at 1. That document was neither filed with the Director or the PTAB, nor did it state SIPCO's intention to appeal the decision on remand or "specify the order or part thereof to be reviewed." Fed. R. App. P. 15(a)(2); *see also* § 90.2; *Steele v. Dep't of Agric.*, 574 F. App'x 941 (table) (Fed. Cir. 2014) (granting dismissal of appeal when appellant failed to identify decision below on appeal). SIPCO has not filed a notice of appeal, or otherwise notified the Director or the PTAB of its now apparent intention to appeal the decision on remand, as required by § 90.2 and the Board's order, Appx26.

Without such notice, the Director lacks "sufficient information … to determine whether to exercise the right to intervene in the appeal." § 90.2; *see also Stocker v. Gen. Conf. Corp. of Seventh Day Adventists*, 95 F.3d 1168 (Table), *1-2 (Fed. Cir. 1996) (dismissing appeal when appellant provided notice to appellee, but

not the Commissioner of Patents). This Court cannot proceed without timely and proper notice of appeal. *In re Reese,* 359 F.2d 462, 464 (C.C.P.A. 1966) (finding court lacked power to waive timing for taking appeal from the Patent Office, whose rules are required by statute – 35 U.S.C. § 142).

In light of its forfeiture, SIPCO cannot appeal the Board's ruling that the certificate of correction has no impact on the Board's Final Written Decision. The Board's finding that Claims 1-15 of the '780 Patent are unpatentable as obvious over the '732 patent should be affirmed on that basis alone.

B. *As a Matter of Law and for the Reasons Stated by the Board, a Certificate of Correction Does Not Have Retroactive Effect*

1. *The Language of Section 255 Expressly Provides for Only Prospective Application of a Certificate of Correction*

Even if SIPCO had preserved its right to seek review of the Board's non-retroactivity determination, that ruling was correct and should be affirmed. Under Section 255, the "patent, together with the certificate, shall have the same effect and operation in law on the trial of actions for causes thereafter arising as if the same had been originally issued in such corrected form." 35 U.S.C. § 255. Thus, the statute includes no provision for retroactive application, but instead explicitly contemplates only prospective application: in a "trial of actions for causes *thereafter arising*." *Id.* (emphasis added). Consequently, regardless of whether an IPR is a "trial of actions,"

which SIPCO disputes, Congress did not permit a certificate of correction to have any retroactive effect. *See id.*, Appx17-18.

Nevertheless, an *inter partes* review is a "trial of actions for causes" under Section 255. Indeed, the USPTO's terminology confirms that an IPR is a "trial" before the PTAB. 37 C.F.R. § 42.2 (defining "trial" as "a contested case instituted by the Board based upon a petition," including "*inter partes* review").

Supreme Court precedent also treats *inter partes* review as a cause of action. Appx858-860. As the Court recognizes more generally, "Congress may devise novel *causes of action* involving public rights free from the strictures of the Seventh Amendment if it assigns their adjudication to tribunals without statutory authority to employ juries as factfinders." *Granfinanciera, S.A. v. Nordberg*, 492 U.S. 33, 51 (1989) (emphasis added). Congress did exactly this when it created IPRs, through which petitioners can request review of a patent and which, once instituted, require the Board to make findings in a final written decision. *See, e.g.*, 35 U.S.C. §§ 311(a), 314(a), 318(a). The Supreme Court confirmed IPR's status as a cause of action in *Oil States Energy Services, LLC v. Greene's Energy Group, LLC*, finding that "[i]nter partes review falls squarely within the public-rights doctrine," and thus is an "action" properly assigned by Congress to adjudication in a non-Article III tribunal. 138 S. Ct. 1365, 1373, 1379 (2018). The language of Section 255 confirms a certificate of correction does not apply to an ongoing or, as here, completed IPR.

2. *The Statuary Scheme of the Related Sections 254 and 256 Confirms that Certificates of Correction Apply Only Prospectively*

Sections 254 and 256, which concern correction of mistake by the Patent Office and correction of inventorship, respectively, "are of particular relevance" to understanding the statutory scheme encompassing Section 255. *Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1370 (Fed. Cir. 2001) (construing Section 255 based on "the bare meaning of the word[s]" and "[their] placement and purpose in the statutory scheme" encompassing Sections 251 to 256 (quotation omitted) (alterations in original)).

Section 254 provides that "the patent together with the certificate, shall have the same effect and operation in law on the trial of actions for causes thereafter arising as if the same had been originally issued in such corrected form." Interpreting this provision, this Court concluded that "for causes of action arising before [the certificate's] issuance, the certificate of correction is not effective." *Southwest Software*, 226 F.3d at 1295; *see also Novo Indus., L.P. v. Micro Molds Corp.*, 350 F. 3d 1348, 1356 (Fed. Cir. 2003) ("[U]nder sections 254 and 255, a certificate of correction is only effective for causes of action arising after it was issued." (quotation omitted)).

In *Southwest Software*, after the patent owner brought suit, it sought and received a certificate of correction under Section 254. 226 F.3d at 1287. This Court

reasoned that it would be "an illogical result to allow the patent holder, once the certificate of correction has issued, to sue an alleged infringer for activities that occurred before the issuance of the certificate of correction." *Id.* at 1295-96. Indeed, this Court reached this conclusion despite Section 254's further language that a certificate of correction issued thereunder "shall be considered as part of the original patent." *Id.* at 1295.

Instead, a patentee should "check a patent when it is issued in order to determine whether it contains any errors that require" correction. *Id.* at 1296. Thus, just as patent owner in *Southwest Software* was not able to apply the newly issued certificate of correction to a district court case that was already ongoing, SIPCO cannot apply the certificate of correction to the *inter partes* review that was no longer ongoing, but already decided. Appx860-861.

In contrast, Section 256 expressly recognizes that an error of inventorship "shall not invalidate the patent … if it can be corrected," thus allowing a certificate correcting inventorship to apply even to proceedings already brought. 35 U.S.C. § 256; *Viskase Corp. v. Am. Nat'l Can Co*, 261 F.3d 1316, 1329 (Fed. Cir. 2001). Section 255 provides no similar language allowing for retroactive application of the correction to an earlier proceeding.

3. *Prospective Application of Certificates of Correction Under Section 255 is Consistent with the Board's Authority Over Inter Partes Review Proceedings*

Congress granted the Director of the Patent Office the authority to "determine the manner in which inter partes review or other proceeding or matter may proceed, including providing for stay[.]" 35 U.S.C. § 315(d). In turn, the Director granted the Board "exclusive jurisdiction" over a patent involved in a proceeding, including a trial or preliminary proceeding. 37 C.F.R. §§ 42.3(a), 42.2. Thus, if a request for a certificate of correction "relates to a patent involved in an interference or *trial*," the patent owner must file a request with the Board before it can seek a certificate of correction from the USPTO. 37 C.F.R. § 1.323.

Consistent with Congress' grant of authority to the Director, the certificate of correction cannot be retroactive—otherwise the Board would need to retroactively apply the certificates to ongoing or completed proceedings. Appx22-23. If certificates of correction apply retroactively, then every grant of permission for a patent owner to seek a certificate of correction would create the risk that the Board will be forced to change course mid-proceeding to address the corrected patent. This difficulty would be compounded by the requirement that the Board issue a final determination within one year of institution. 35 U.S.C. § 316(a)(11). The petitioner would also be forced to address the corrected patent mid-IPR, and may be estopped

from raising future challenges to the corrected patent, based on IPR grounds chosen in reliance on the uncorrected patent.

Likewise, every denial of permission to seek a certificate of correction would create the risk that the Board will have to reconsider its final written decisions in light of the certificate of correction. Thus, retroactive application would hamper the Board's authority, placing it at the whims of the patent owner seeking the certificate of correction. In contrast, Section 255's prospective application compliments Congress' grant of authority to the Director to decide how to proceed when faced with a request to seek a certificate of correction for a patent subject to *inter partes* review.

SIPCO asserts that "a patent owner is entitled to a validity determination on the corrected version of a patent claim." Blue Br. at 21. Yet, the very case it cites for this proposition affirms that the corrected patent applies only prospectively. In *H-W Tech., L.C. v. Overstock.com, Inc.*, where a certificate of correction issued during the district court litigation, this Court held that the plaintiff could not assert the corrected version of claim because "neither party has argued that this suit involves causes of action arising after the certificate of correction issued." 758 F.3d 1329, 1334-35 (Fed. Cir. 2014). This Court further held that because the original claim "omits a material limitation, and such omission is not evident on the face of

the patent, the patentee cannot assert that claim until it has been corrected by the PTO"—consequently the validity of the claim could not be litigated. *Id.*

In contrast, here, the validity has been litigated and the '780 Claims have been found unpatentable. Similarly, in *Southwest Software*, this Court remanded for the district court to determine the validity of a claim without considering the certificate of correction, which issued during the underlying litigation. 226 F.3d at 1283 (holding that because a certificate of correction "is not effective for purposes of this action, the district court must determine on remand whether, absent the added [corrected] material, claim 1 of the '257 patent is invalid"). SIPCO's attempts to distinguish *Southwest Software* as merely a district court case are belied by its repeated reliance on *H-W Tech.*

SIPCO's reliance on Section 316(d) of Title 35 is similarly unavailing, given that the motions to amend that it provides for are also not retroactive—rather new claims are substituted for the originally challenged claims. Indeed, applying such changes retroactively (either based on a certificate of correction or an amendment) would contradict the principle that "the public is entitled to rely on the public record of a patent in determining the scope of the patent's claims." *Vectra Fitness, Inc. v. TNWK Corp.*, 162 F.3d 1379, 1384 (Fed. Cir. 1998).

Because a certificate of correction under Section 255 has only prospective application, SIPCO cannot show that the Board's alleged error affected its decision

below on the merits. *See In re Watts*, 354 F.3d 1362, 1369 (Fed. Cir. 2004) ("[T]o prevail the appellant must not only show the existence of error, but also show that the error was in fact harmful because it affected the decision below.") (citations omitted). The Board's finding that Claims 1-15 of the '780 Patent are unpatentable over the '732 patent should be affirmed.

C. *The Board Did Not Err in Denying SIPCO's Third Motion for Leave to File a Certificate of Correction*

1. *Based on the Authority Delegated to It by the USPTO, the Board Stayed SIPCO's Third Request Until the Board Issued Its Final Written Decision Due to SIPCO's Repeated Errors Evincing Deliberate Indifference*

The Board had discretion to grant or deny SIPCO's Third Request. As discussed, the Patent Office delegated to the Board "exclusive jurisdiction" over a patent involved in a proceeding, 37 C.F.R. § 42.3(a), and requires that patent owners request authorization from the Board before seeking a certificate of correction for a patent involved in an IPR. 37 C.F.R. § 1.323. The patent owner must meet its burden of proof to establish that it is entitled to the Board's authorization to request certificate of correction from the USPTO. 37 C.F.R. § 42.20(c) (cited by 37 C.F.R. § 1.323); 37 C.F.R. § 41.121(b).

The Board is not required to grant such a motion; rather it has discretion to grant or deny the request to submit a petition seeking a certificate of correction. § 41.121(a)(2) ("The Board may authorize a party to file a motion…"); § 42.20(b)

("A motion will not be entered without Board authorization."); 37 C.F.R. § 42.5(a). "The guiding principle for the PTAB in making any determination is to 'ensure efficient administration of the Office and the ability of the Office to complete IPR proceedings in a timely manner.'" *Redline Detection*, 811 F.3d at 445 (citation omitted).

The Board properly exercised its discretion when it stayed SIPCO's Third Request until its Final Written Decision. Earlier in the proceeding, in reliance on its exclusive jurisdiction and authority to conduct the proceeding, §§ 42.3, 42.5, the Board exercised its discretion to stay SIPCO's First Request to seek a certificate of correction pending institution. Appx233, Appx363. The Director denied this request for SIPCO's failure to file an Application Data Sheet, as required by 35 U.S.C. § 120 and 37 C.F.R. § 1.78(d)(2). *E.g.* Appx526-527 (citing Appx3779). The Board also granted SIPCO's Second Request to petition for a certificate of correction. Appx389. The Director denied SIPCO's Second Request because the '780 patent did not refer "to the first (earliest) application and every intermediate application," because the '780's chain of priority did not match that of the reference to which it sought to claim priority. Appx527 (quoting Appx3783).

Upon SIPCO's Third Request and relying on the same authority, the Board ordered SIPCO "to show good cause why its request [for leave to file the Third Request] should be granted." Appx482. Due to SIPCO's lack of explanation and

repeated errors, the Board found that SIPCO could not show good cause. Despite SIPCO's assertion "that the mistakes in the Second Request are due to an inadvertent Omission," the Board found that "Patent Owner does not explain any particular circumstances that would justify its mistakes." Appx527 (citing Appx522 (citing Appx3391-3395 ¶¶5-12; Appx3061-3066 ¶¶1-26, 29).

Instead, the Board found that SIPCO had made "repeated mistakes," including its recent failure to comply with regulations requiring a reference be filed in an Application Data Sheet, Appx526-527 (citing Appx3779-3781), and its failure to refer "to the first (earliest) application and every intermediate application." Appx527 (citing Appx3783); *see also* Appx555 (explaining in decision on rehearing request that "Patent Owner had made several errors and mistakes throughout Patent Owner's attempts to claim priority," including (1) "during prosecution of the application leading to the '780 patent;" (2) "during prosecution of the application to which Patent Owner seeks to claim priority;" (3) "in the First Request;" and (4) in the "Second Request"). Based on these "repeated mistakes" and the "deliberate indifference toward avoiding errors" that they reflected, the Board denied SIPCO's Third Request until entry of the Final Written Decision, when it lifted the stay. Appx528; Appx89.

As shown above, the Board relied on valid designations of authority to deny SIPCO's Third Request based on substantial evidence as explained in a reasoned decision. The Board did not abuse its discretion.

2. *SIPCO cannot satisfy the high bar for abuse of discretion*

The Board more than adequately considered SIPCO's argument and evidence in denying SIPCO's Third Request. Contrary to SIPCO's baseless assertions, the Board's decision cited directly to SIPCO's discussion of its evidence. *See* Appx527 (citing Appx522 (citing Appx3391-3395 ¶¶5-12; Appx3061-3066 ¶¶1-26, 29)). Even if the Board had not done so, a "failure to explicitly discuss every issue or every piece of evidence does not alone establish that the tribunal did not consider it." *Novartis AG v. Torrent Pharm. Ltd.*, 853 F.3d 1316, 1328 (Fed. Cir. 2017). Here, where the Board cited to the relevant discussion and provided a reasoned decision, SIPCO cannot show that the Board did not consider its evidence. *See id.* (finding no reason to assume failure to consider evidence "not recited at length" in the FWD in light of Board's "cit[ation] to the relevant pages").

Moreover, in its Decision Denying the Request for Rehearing, the Board explicitly rejected SIPCO's argument, explaining that it "did not overlook Patent Owner's explanation." Appx555. Instead, the Board considered Mr. Weeks' explanation of mistakes, incorrect beliefs and unintentional errors including his mistake in claiming priority to the wrong patent, his failure to include the corrected

application data sheet in the First Request, and the string of errors across multiple patents in the recitation of priority, and simply "did not find it compelling." Appx555 (citing, *e.g.*, Appx339-344; Appx3060-3066); Appx3391-3395 (¶¶5, 7, 10-12). The Board adequately considered SIPCO's evidence.

The Board did not, as SIPCO asserts, analyze the merits of SIPCO's request for a certificate of correction. Consistent with this Court's guidance in Honeywell, the Board reviewed SIPCO's repeated requests "to determine whether there is *sufficient basis* supporting Patent Owner's position that the mistake *may* be correctable." *Honeywell*, 939 F.3d at 1349 (quotation omitted). Contrary to SIPCO's assertions, the Board did not seek to "determine whether a mistake in an issued patent is of 'minor character' or 'occurred in good faith.'" *Id.* (reversing the Board for engaging with that analysis on the merits of a certificate for correction).

The Board's findings of "repeated mistakes" by SIPCO, Appx527, did not concern the merits of Section 255 or whether there was a sufficient basis that the mistake as described in its Third Request may be correctable. Rather, the Board's decision concerned how to effectively proceed in light of SIPCO's repeated botched requests for leave to seek a certificate of correction. *See* Appx526-527 (detailing SIPCO's repeated requests and errors); *Redline Detection*, 811 F.3d at 445 (describing PTAB's "guiding principle" of "efficient administration" and ability "to complete IPR proceedings in a timely manner"). The Board did not deny SIPCO's

Third Request entirely; rather it "lift[ed] the stay prohibiting Patent Owner from filing Patent Owner's Third Request" in its Final Written Decision, expressly "defer[ring] to the determination of the Petitions Branch regarding Patent Owner's claim of Priority." Appx48-49.

As discussed above, such analysis aligns with the Board's exclusive jurisdiction over the patent during an IPR, its authority to determine the proper course of conduct in a proceeding, and the requirement that the patent owner seek the Board's leave before seeking a certificate of correction. 37 C.F.R. §§ 42.3, 42.5, 1.323.

3. *Moreover, Even if the Board Had Erred in Staying SIPCO's Third Request, this Determination Cannot Affect the Board's Decision that the Claims Are Unpatentable*

Because SIPCO failed to appeal the Board's decision on remand, which found SIPCO's certificate of correction is not retroactive, any error by the Board in denying SIPCO's Third Request cannot affect the Board's decision on remand. *Supra* Pt. I.A.

The Board's analysis confirms that, even if it had not exercised its discretion and denied SIPCO's request for leave to request a certificate, the grant of a certificate of correction could not have affected its Final Written Decision. Appx18-24. The Board explained that "the Certificate would not impact this trial" when the certificate was issued "well after the subject *inter partes* review commenced" and indeed was

not even sought "until after Petitioner had filed its Petition." Appx18. The Board also explicitly addressed that, by "defer[ing] determination of the certificate to the Petitions Branch," the Board "did not agree that a decision by the Petitions Branch or Certificates of Correction Branch should impact the Final Decision." Appx24-25.

Additionally, as discussed in Part I.B, *supra*, because any certificate of correction received following SIPCO's Third Request could not retroactively apply to this IPR, any error in the Board's stay of the Third Request was harmless.

For each of these reasons, the Board's finding that the '780 patent is unpatentable over the '732 patent should be affirmed.

II. SIPCO Is Collaterally Estopped from Re-litigating the Validity of Claims 1, 2, 4, 6-10, and 12-15

SIPCO appeals from the Board's determination below finding Claims 1-15 unpatentable as obvious, asserting that the Board's finding should be overturned. Yet, in a now-final decision, the Board found claims of the '732 patent, including claims that are substantially identical to twelve of the claims on appeal here, to be unpatentable. Because this decision is subject to preclusive effect, SIPCO is collaterally estopped from re-litigating the validity of these claims here.

"Collateral estoppel protects a party from having to litigate issues that have been fully and fairly tried in a previous action and adversely resolved against a party-opponent." *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013). Collateral estoppel applies in this Court to a PTAB decision in an IPR, once

it becomes final. *See Papst Licensing GMBH & Co. KG v. Samsung Elecs. Am., Inc.*, 924 F.3d 1243, 1250-51 (Fed. Cir. 2019) (citing cases). "[[W]hen an issue of fact or law is actually litigated and determined by a valid and final judgment and the determination is essential to the judgement, the determination is conclusive in a subsequent action between the parties, whether on the same or a different claim." *Papst Licensing*, 924 F.3d at 1250 (quoting *B & B Hardware, Inc. v. Hargis Indus., Inc.*, 135 S. Ct. 1293, 1303 (2015)).

This Court "does not limit collateral estoppel to patent claims that are identical. Rather, it is the identity of the *issues* that were litigated that determines whether collateral estoppel should apply." *Ohio Willow Wood*, 735 F.3d at 1342 (citations omitted); *ArcelorMittal Atlantique et Lorraine v. AK Steel Corp.*, 908 F.3d 1267, 1274 (Fed. Cir. 2018) ("Collateral estoppel may bar litigation in cases with different but related patents when there are common issues."); *Nestle USA, Inc. v. Steuben Foods, Inc.*, 884 F.3d 1350, 1351-52 (Fed. Cir. 2018). If the differences between the patent claims at issue in each case "do not materially alter the question of invalidity, collateral estoppel applies." *Ohio Willow Wood*, 735 F.3d at 1342. Likewise, collateral estoppel applies for substantially identical claims, even if they were found unpatentable on different grounds. *MaxLinear, Inc. v. CF Crespe LLC*, 880 F.3d 1373, 1375-77 (Fed. Cir. 2018) (finding collateral estoppel may apply between patent challenges based on different grounds, as long as the claims "present

identical issues of patentability"); *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 252 F.3d 1306, 1310 (Fed. Cir. 2001) ("[A]s a result of collateral estoppel, a judgment of invalidity in one patent action renders the patent invalid in any later actions based on the same patent.").

On April 10, 2020, the Board issued a final written decision on remand in *Emerson Electric Co. v. SIPCO, LLC*, IPR2015-01973, finding, as is relevant here, that Claims 13, 14, 19-21, and 25 were unpatentable over Kahn in view of the AAPA; that Claims 16, 18, and 24 were unpatentable over Kahn in view of Burchfiel and the AAPA; and that Claim 23 was unpatentable over Kahn in view of the AAPA and Fisher. '732 FWD at *15, 20, 24-25, 29, 32.

This decision is final, as SIPCO did not file a notice of appeal. *See id.* at 1, 74; 37 C.F.R. § 90.3. SIPCO fully and fairly participated in the litigation of the '732 FWD, including previously on appeal before this Court. *See, e.g.*, *Emerson*, 745 F. App'x at 374. This Court expressly warned SIPCO of the impact of the '732 FWD on this case, when it remanded the Board's original final written decision because it "came to the opposite conclusion on nearly the same facts" in this case, including "nearly identical claims" and "nearly identical evidence." *Id.* at 372-73. Thus, the '732 FWD is final, and was fully and fairly litigated by SIPCO.

Because the claims found unpatentable in the '732 FWD are substantially similar to those at issue here, collateral estoppel applies. In addition to this Court

remanding the '732 FWD due to the identity between the claims of the '732 and '780 patents, the Board below found no substantive differences between the claims found unpatentable in the '732 FWD and twelve of the claims at issue in this appeal.

Below, Emerson argued that the differences between Claim 1 of the 780 patent and Claim 13 of the '732 patent are not substantive, and that Claims 2-15 of the '780 patent likewise contain only non-substantive differences as compared with Claims 13-25 of the '732 patent. Appx55 (citing Appx147-158). The Board agreed, finding that "any differences in claim language between the '780 claims and the '732 corresponding claims are non-substantive, and that any differences are taught by the '732 patent specification and would have been obvious in view of the '732 patent specification and claims." Appx55. SIPCO did not argue otherwise and has not appealed that finding. *See* Appx57.

In particular the Board found (1) '732 Claim 13 is substantially identical to '780 Claims 1 and 8, Appx55-56 (citing Appx148-149, Appx152); (2) '732 Claim 20 is substantially identical to '780 Claims 9 and 15, Appx56-57 (citing Appx152-154, Appx156); and (3) '732 Claims 14, 16, 18, 19, 21, 23-25 are substantially identical to '780 Claims 2, 4, 6, 7, 10, 12-14, respectively. Appx56-57 (citing Appx149-151, Appx154-159); *see also* App1008-1009; '732 FWD at *5.[2]

[2] While the Board below also found '780 Claims 3, 5, and 11 identical and substantially identical to '732 Claims 15, 17, and 22, those claims were not found unpatentable in the '732 FWD.

Based on the finding below that Claims 1, 2, 4, 6-10, and 12-15 of the '780 patent are substantially identical to the corresponding claims of the '732 patent and the now-final '732 FWD finding unpatentable those corresponding claims, SIPCO is collaterally estopped from arguing that Claims 1, 2, 4, 6-10, and 12-15 of the '780 patent are not unpatentable as obvious. *See Ohio Willow Wood*, 735 F.3d at 1342 (finding collateral estoppel between claims of different patents using "slightly different language to describe substantially the same invention").

The Board's finding that Claims 1, 2, 4, 6-10, and 12-15 are unpatentable must be affirmed.

III. Substantial Evidence Supports the Board's Findings that Claims 1, 2, 4, and 6-8 Are Unpatentable as Obvious

As the substance of the Board's decision in the '732 FWD further confirms, here the Board properly found that '780 Claims 1, 2, and 7 are unpatentable as obvious over Kahn in view of the AAPA, Appx81, and '780 Claims 4, 6, and 8 are unpatentable as obvious over Kahn in view of the AAPA and Burchfiel, Appx88. SIPCO does not dispute the majority of the Board's findings. As to SIPCO's arguments on appeal, not only is SIPCO estopped from raising those arguments in view of the '732 FWD, but each argument also fails on its merits. Kahn in view of the AAPA discloses the limitations of Claim 1, including the requirement of a controller coupled to a sensor that SIPCO disputes. Additionally, a POSITA would have been motivated to apply both the AAPA's teachings of sensors and actuators

and Burchfiel's teachings of function fields and implementing a process in response to the field to Kahn. The Board adequately considered and rejected SIPCO's arguments below and properly found the claims obvious based on the express disclosures in the prior art and applying the same grounds set forth in the Petition. The Board's findings should be affirmed.

A. *Substantial Evidence Supports the Board's Findings That Kahn in view of the AAPA Renders Obvious the Limitation of "a Controller Operatively Coupled to the Transceiver and the Sensor, the Controller Configured to … Receive Data from the Sensor"*

The Board properly found that Kahn in view of the AAPA renders obvious each limitation of Claims 1, 2 and 7. SIPCO disputes whether Kahn in view of the AAPA discloses "a controller operatively coupled to the transceiver and the sensor, the controller configured to … receive data from the sensor" and whether a POSITA would have been motivated to apply the AAPA's teachings to Kahn. Appx42. As confirmed by the Board here and in the '732 FWD's now-final findings on the same prior art, a POSITA would have been motivated to apply the AAPA's teachings of a "sensor[] … hard-wired to [a] controller[]" in implementing Kahn's PR network, including a microprocessor controller, to advantageously monitor and respond to system parameters—thus rendering this limitation obvious. Appx65-66; '732 FWD at *9 ("[W]e are persuaded that one of ordinary skill in the art, upon considering the teachings of Kahn (that a rapid and convenient deployment is not possible in fixed plant installations) and the [A]APA (that existing industrial plant installations

require physical wires and are an "expensive proposition'), would have been motivated to combine the teachings of Kahn and the [A]APA."); *see also* Appx77-78; Appx80-81; '732 FWD at *8.

1. *The Board's Findings of Motivation to Combine Are Supported by Substantial Evidence and Free of Impermissible Hindsight*

SIPCO attacks only one of the Board's bases for motivation to combine—the cost-savings benefit of implementing wireless connections—for impermissible hindsight. Blue Br. at 56-59. Yet, the Board found several motivations to apply the AAPA's teaching to Kahn—each supported by substantial evidence. Appx70-71; Appx77-78. Thus, SIPCO's argument alone cannot impact the Board's finding of obviousness. Moreover, the Board did not use impermissible hindsight by relying on admissions in the Applicant Admitted Prior Art to find that the expense of hard wiring provided a motivation to combine the teachings of Kahn and the AAPA.

The Board found that "a skilled artisan would have recognized that an advantage of using *wireless* packet radio networks was to avoid the need for *wires*, and that the skilled artisan would have been motivated to use a wireless packet radio network in order to permit mobile applications and to enhance flexibility in rapid deployment and reconfiguration not currently possible with wired installations." Appx70. The Board grounded its decision in Kahn's teaching that the "use of a PR network avoids a known problem in the art, the need to install physical wires and cables to connect network components." Appx67 (citing Appx1011 (col.1)).

Because deployment requires only "mounting the equipment to the desired location," Kahn explains that "[d]eployment of the packet radio net should be rapid and convenient." Appx1012 (col.2); *see* Appx69. Kahn discloses that PR networks "permit mobile [(e.g., wireless)] application over a wide geographic area" and provide "local distribution of information" with "a degree of flexibility in rapid deployment and reconfiguration not currently possible with most fixed plant [(e.g., wired)] installations." Appx68 (citing Appx1011 (col.1)).

The Board relied on Dr. Heppe's testimony and corroboration by Greeves as further evidence of this motivation to combine. Dr. Heppe opined that "one of skill in the art would recognize that the flexibility and convenience in deployment and reconfiguration, explicitly discussed by Kahn, stems in large measure from the avoidance of the need for network wiring." Appx1793-1794 (¶21); *see also* Appx1077-1079 (¶42). Greeves's description of the background knowledge of a POSITA corroborated "that a skilled artisan at the time of the alleged invention of the '780 patent would have understood that a benefit of wireless network links over physical links was flexibility in rapid deployment and reconfiguration." Appx68-69; Appx75.

In addressing SIPCO's counterarguments, the Board found further motivation to combine—that Kahn and the AAPA both "describe local distribution of information." Appx77-78. The Board again relied on Kahn's teaching that "in

implementations involving local distribution of information, using a wireless PR network can provide increased flexibility in rapid deployment and reconfiguration over using a wired network." Appx77 (quoting Appx1011). The Board found the "[A]APA teaches a locally distributed network that is hard-wired, and that includes sensors and actuators." Appx77 (citing Appx112 (5:41-6:3); Appx92)). Thus, the Board concluded that Kahn and the AAPA's teaching on the "local distribution of information suggests an advantage to implementing a network of sensors and actuators wirelessly, namely to increase flexibility in rapid deployment and reconfiguration." Appx78.

Though each of these motivations to combine suffices independently, the Board also found, based on substantial evidence, that the Applicant Admitted Prior Art—and not the inventor of the '780 patent—recognized the expense of installing hardwiring. The '780 patent repeatedly describes the prior art's recognition of the costs of a hard-wired network. *See* Appx70 (citing, *e.g.*, Appx110 (2:41-2:44) (concerning "costs associated with sensor-actuator infrastructure required to monitor and control functions" in control system technology)). In particular, the '780 specification admits that Figure 1's "[p]rior control systems … require electrical coupling between the local controller and system sensors and actuators" and, consequently, that "wiring an existing industrial plant can be a dangerous and expensive proposition." Appx112 (5:37-6:3). The Board confirmed that this

discussion of the costs of hard-wiring "describ[ed] admitted 'prior art' systems … in the context of what was known at that time." Appx71-72. Thus, the AAPA admits that the expense of wiring "was a well known problem in the art," and not "a problem recognized only by the inventor," as argued by SIPCO. Appx71-72 (citing Appx112 (5:57-6:3)).

The Board rejected Dr. Almeroth's testimony that "the '780 patent set out to address problems other than just the cost of installing wiring," which, even if true, "would not negate the clear teaching in the '780 patent that" it was known that "installing hard-wired connections was expensive." Appx71-72. Instead, the Board found convincing Dr. Almeroth's admission that "the expense of installing wiring … was a well known problem in the art." Appx72 (citing Appx2217 (¶104)).

The Board found that Greeves also confirmed "that it was well known in the art that installing wiring to connect network components was expensive, and that such costs could be reduced by using wireless networks." Appx72. For example, Greeves recognized that radio is "relatively cost-effective when compared with other physical links." Appx72 (quoting Appx502 (quoting Appx2279 (left col.))). Thus, Greeves corroborated the AAPA's statements and Dr. Heppe's opinion that a skilled artisan "would have understood that using wireless network links was less costly than installing wires and cables in buildings for communications." Appx72.

Though SIPCO asserts that this motivation to combine improperly relies on "the *inventor's* recognition of a problem in the art," Blue Br. at 56, the presence of the motivation in the patent-at-issue does not automatically trigger hindsight bias, particularly where as here the motivation is part of the admitted prior art and not the alleged invention. *See Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1339-40 (Fed. Cir. 2020) (finding no "impermissible hindsight" even though the patent-at-issue "identifies this same design [as the prior art] as existing" in the art at the time of invention); *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983). As demonstrated, the Board found that the AAPA—and not the '780 inventor—"clearly discloses that installing hard-wiring, as opposed to using a wireless network, can be dangerous and costly." Appx70-71.

Moreover, regardless of SIPCO's arguments concerning whether hindsight bias affected the Board's analysis of the cost-savings benefits, the Board's other findings—that Kahn's teaching of enhanced flexibility in rapid deployment and reconfiguration, and that Kahn's and the AAPA's teachings on the local distribution of information would each provide motivation to combine the AAPA's hard-wired sensors and actuators with Kahn's wireless PR network—are supported by substantial evidence and unchallenged on appeal. Appx72.

2. *The Board's Finding that Kahn in View of the AAPA Satisfies the Limitations of Claim 1 Is Supported by Substantial Evidence*

Kahn discloses a wireless PR network, comprised of a plurality of packet radios that receive and transmit data wirelessly. Appx63 (citing Appx159-160). In particular, Kahn teaches a microprocessor controller, which controls the transceiver by selecting the transmit frequency, data rate, power, and time of transmission for the transceiver. Appx80 (citing Appx164); Appx165-166 (citing Appx1019 (col.2); Appx1098-1099 (¶66)). Kahn's controller also assembles data into packets for transmission by Kahn's transceiver and sends control signals to actuators to carry out the indicated commands. Appx80; Appx66 (citing Appx162 (citing Appx1093-1094 (¶61)); Appx167 (citing Appx1036 (col.1)); *see also* Appx166. Thus, the Board found that Kahn's microprocessor controller discloses the claimed controller. Appx80-81.

The Board found the AAPA's teaching of a sensor disclosed the '780 patent's claimed sensor. Appx65-67. The '780 patent admits that, "[a]s is known, there are a variety of systems for monitoring and controlling," which "use remote sensors and controllers to monitor and automatically respond to system parameters." Appx110 (1:60-67); *see* Appx67. The '780 patent specifically depicts prior art control systems, which "include sensors and actuators 111-114 that are interfaced with local controller 110 via hard-wired connections." Appx66 (citing Appx112 (5:41-46,

5:57-58, 5:66-6:3); Appx92). Based on these admissions and Dr. Heppe's testimony reflecting the same, the Board found that the "prior art control systems included sensors and actuators that were hard-wired to controllers," Appx66 (citing *e.g.*, Appx1093-1094 (¶61)), and that such sensors "were commonly used in monitoring and controlling systems." Appx67 (citing *e.g.*, Appx1079 (¶42)).

The Board further credited Dr. Heppe's testimony based on the admissions of the AAPA that these sensors were "intended for third-party integration into control systems" and "have well-defined behaviors and interface specifications to enable such integration with relative ease." Appx66-67 (quoting Appx1079 (¶42)); *see also* Appx66 (citing, *e.g.*, Appx1104 (¶76) (explaining sensors could be coupled with the microprocessor controller in Kahn's packet radio)). Given the commonality of the AAPA's sensors and their ability to be integrated into control systems, the Board determined that a POSITA could apply the teachings of the AAPA's sensors to the microprocessor controller of Kahn's wireless PR network "without undue experimentation and with predictable results." Appx66-67; *see also* Appx1079 (¶42); Appx1093-1094 (¶61); Appx1104 (¶76).

The Board's findings readily demonstrate that it considered and rejected SIPCO's arguments. *Compare* Blue Br. at 43 (asserting the Board ignored its arguments that Kahn "would not have taught that a sensor is interfaced with a transceiver") *with* Appx75 (rejecting SIPCO's argument that Emerson failed to

demonstrate "a reasonable expectation of success" that Kahn in view of the AAPA would achieve a "transceiver that is 'electrically interfaced with a sensor"). Moreover, the Board's finding that the AAPA's hard-wired sensor teachings would be easy to integrate with the microprocessor controller of Kahn's PR network sufficiently contradicts SIPCO's argument that Kahn's controller would not be compatible with the AAPA's hard-wired sensor. *See* Blue Br. at 55; Appx469-470. In any event, the Board need not explicitly address every argument raised by SIPCO. *See Synopsis, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1322 (Fed. Cir. 2016), *overruled on other grounds by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1296 n.1 (Fed. Cir. 2017) (en banc); *Yeda Research v. Mylan Pharm. Inc.*, 906 F.3d 1031, 1046 (Fed. Cir. 2018) ("[F]ailure to explicitly discuss every fleeting reference or minor argument does not alone establish that the Board did not consider it.").

SIPCO essentially asserts that Kahn's controller and the AAPA's sensor are not physically combinable. *See* Appx513-514. However, "[i]t is well-established that a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements." *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985)). Instead, "the test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art." *Id*. at 1333. As shown above, based on several motivations to combine, including

enhanced flexibility in rapid deployment and reconfiguration, cost-savings benefits, and the use of Kahn's and AAPA's networks in the local distribution of information, a POSITA would have applied the teachings of the common sensors in the AAPA to Kahn's PR network via its microprocessor controller without undue experimentation and with predictable results. *See* Appx65-67 (citing Appx110 (1:60-67); Appx1036 (col.1); Appx1077-1079 (¶42); Appx1093-1094 (¶61); Appx1104 (¶76)). The Board's findings are supported by substantial evidence and should be affirmed.

B. *Substantial Evidence Also Supports the Board's Findings of Motivation to Combine Kahn, Burchfiel, and AAPA*

As confirmed by the Board here and in the '732 FWD's now-final findings on the same prior art, a POSITA would have been motivated to also apply Burchfiel's teaching of "function fields" and implementing a process in response to those fields as well as the AAPA's teachings to Kahn. Appx83; Appx85-86; '732 FWD at *22 (finding that "because Kahn expressly directs the reader to Burchfiel for additional information about the functions of the stations," there was motivation to apply Burchfiel's teachings to Kahn in view of the AAPA). SIPCO disputes only whether the application of Burchfiel's teachings is inconsistent with the application of the AAPA's teachings to Kahn. Here again, SIPCO's arguments fail.

Kahn and Burchfiel both describe PR networks and have an author in common. *See* Appx1010; Appx1041. Critically, Kahn "cites to Burchfiel in its description about functions of a station in PR networks." Appx82-83 (citing

Appx1019); *see also* Appx146-147. According to Kahn, Burchfiel discloses the role of stations in the "global management of the radio net." Appx1019 n.24; *see* Appx1041-1047. Kahn's explicit teaching to use Burchfiel for additional information provides substantial evidence that a POSITA would be have been motivated to apply Burchfiel's teachings to Kahn. *See Papst Licensing*, 924 F.3d at 1248 (motivation to combine existed where one reference "expressly refer[red] to" another); *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1372 (Fed. Cir. 2019) (motivation to combine where reference encouraged use of a "wide variety" of algorithms, including the second reference's algorithm).

The motivation to combine Kahn and the AAPA, and Kahn and Burchfiel, provides motivation to combine the three references. Appx82-83; *see Intellectual Ventures II LLC v. Ericsson, Inc.*, 685 F. App'x 913, 917 (Fed. Cir. 2017) (concluding no error in Board's finding that combination of Li with Yamaura, and Li with Beta, provided motivation to combine all three). In sum, a POSITA would have been motivated to apply Burchfiel's teachings on the functions of a station and the AAPA's teachings of sensors and actuators hardwired to a controller to Kahn's PR network. Appx82-83. The Board's finding of motivation to combine, supported by reasoned explanation and substantial evidence, should be upheld. *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins.*, 463 U.S. 29, 43 (1983); *Yeda Research*, 906 F.3d at 1046.

SIPCO wrongly asserts that the Board ignored its argument that the "alleged motivation for combining Burchfiel's teachings to Kahn is inconsistent with its alleged motivation for combining the [A]APA with Kahn." Blue Br. at 46-47 (citing Appx467) (alteration in original). Notably, SIPCO's conclusory argument consisted of a few sentences asserting that "the components of the network architecture" taught by Burchfiel would be "replace[d] in the combination with the systems described in the [A]APA." Appx467 (citing Appx2224 (¶119)). As noted above, the proposed combination considered and adopted by the Board did not involve physically replacing the wireless network of Burchfiel with the wired system of the AAPA, but instead involved applying Burchfiel's teachings on the functions of a station (including a function field and implementing a process in response to the field) and the AAPA's teachings of sensors and actuators hardwired to a controller to Kahn's PR network. Appx63, Appx82-83. SIPCO's argument again violates the principle that "a determination of obviousness based on teachings from multiple references does not require an actual, physical substitution of elements." *Mouttet*, 668 F.3d at 1332.

Further, the Board need not "address every argument raised by a party or explain every possible reason supporting its conclusion." *Synopsis*, 814 F.3d at 1322; *Yeda Research*, 906 F.3d at 1046. Here, SIPCO's argument was not germane to the proposed combination, and the Board addressed and rejected SIPCO's more

expansive argument that Burchfiel does not teach the claimed function codes. Appx84-86 (citing Appx435-439); *see also* Appx377 (citing Appx289-293, Appx313 (restated verbatim at Appx467)). The Board's treatment of SIPCO's arguments was commensurate with SIPCO's own attention to these arguments. *See Novartis*, 853 F.3d at 1327-28 (finding no fault with "Board's arguably limited treatment of [certain] arguments," which "was at least commensurate with" patent owner's presentation of those arguments).

The Board's decision on motivation to combine is supported by reasoned explanation and evidence and should be upheld, as it does not "run[] counter to the evidence before the agency." *State Farm*, 463 U.S. at 43; *Yeda Research*, 906 F.3d at 1046.

C. *The Board Relied on the Same Grounds as Alleged in Emerson's Petition to Find Claims 1, 2, 4, and 6-8 Unpatentable as Obvious*

The Board relied on the same grounds of Kahn in view of the AAPA and in further view of Burchfiel (Appx81-82) set forth in Emerson's Petition (Appx159-171) and relied on in the Board's Decision to Institute (Appx375-378). The Board did not "change theories in midstream." *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 52 (Fed. Cir. 2020); *see also Genzyme Therapeutic Prods. Ltd. P'ship v. Biomarin Pharm.*, 825 F.3d 1360, 1366 (Fed. Cir. 2016) (finding Board did not "change theories" where final decision relied on same grounds as institution).

SIPCO's argument that the Board "combin[ed] Greeves with Kahn and the [A]APA" to create new grounds for unpatentability must fail on appeal, just as it did below. *See* Blue Br. at 48; Appx74. The Board relied on Greeves to determine the "background knowledge of a person of ordinary skill in the art" and to "corroborate[] Petitioner's arguments made at the petition stage about the prior art." Appx74; *see also, e.g.*, Appx70 (finding Greeves supported Dr. Heppe's opinion); Appx72 (finding Greeves confirmed motivation to combine). Such reliance does not create a new ground of unpatentability. *See Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1365 (Fed. Cir. 2015) (finding Board erred by failing to consider a reference offered to show "background understanding of skilled artisans," but which was "not one of the three pieces of prior art presented as the basis for obviousness").

The restriction that the PTAB "may not change theories in midstream" does not prevent the parties from introducing new evidence during the course of the trial, which is to be expected in *inter partes* review. *Genzyme*, 825 F.3d at 1366. Rather, "as long as the opposing party is given notice of the evidence and an opportunity to respond to it, the introduction of such evidence is perfectly permissible under the APA." *Id.*; *Yeda Research*, 906 F.3d at 1040. This rule extends to evidence submitted by petitioner in the reply, as long as it rebuts evidence offered by patent owner. *Apple Inc. v. Andrea Elecs. Corp*, 949 F.3d 697, 706-707 (Fed. Cir. 2020) (citation omitted); *Belden*, 805 F.3d at 1081-82 (rebuttal evidence may be used "to

explain, repel, counteract, or disprove the evidence of the adverse party" (quotation omitted)).

SIPCO submitted Greeves along with testimony from Dr. Almeroth, who relied on the prior art to describe the purported challenges of wireless radio technology. *See* Appx507; Appx2221 (¶113) (citing Appx2279-2280; Appx2351); Appx3361-3362 (¶127) (same). SIPCO also asserted that the record did not support Emerson's motivations to combine of flexibility in rapid deployment and reconfiguration or cost-savings. *E.g.*, Appx461-464.

In response, Emerson explained that Greeves "directly contradicts [SIPCO's] conjecture by extolling the benefits" of wireless networking, which would be achieved by applying the AAPA's teachings of sensor's and actuators to Kahn's wireless system. Appx507 (citing Appx2279 (left col.); Appx2280 (right col.); Appx2281 (mid. col)). In particular, Greeves confirms the "ease of set-up" or rapid deployment provided by radio telemetry (wireless communication) over physical links. Appx2280 (right col.); *see* Appx505. Greeves also explicitly recognizes the "cost and efficiency benefits" of radio telemetry in the water supply industry, including its "cost-effective[ness] when compared with other physical links." Appx2279 (left col.); *see* Appx502. As found by the Board, these rebuttal arguments based on Greeves were entirely proper. Appx73; *see Belden*, 805 F.3d at 1081-82. The Board did not err in relying upon them. *See* Appx68.

"[T]he 'critical question for compliance with the APA and due process' was whether the patent owner received 'adequate notice of the issues that would be considered, and ultimately resolved, at the hearing.'" *Nike*, 955 F.3d at 54 (quoting *Genzyme*, 825 F.3d at 1366-67). The Board correctly found that "Patent Owner has not been denied notice of the issues to be considered by the Board or an opportunity to address the facts and legal arguments upon which [the] final determination rests." Appx73 (citation omitted).

SIPCO addressed Emerson's rebuttal arguments on Greeves at the hearing, including whether the Board should consider Greeves and whether it reflected the understanding of people of ordinary skill in the art. Appx672-677 (69:5-74:8). SIPCO did not seek any additional opportunity to respond. *See Belden*, 805 F.3d at 1081-82 (finding no lack of opportunity to respond when patent owner did not seek such opportunity, such as surreply); *Yeda Research*, 906 F.3d at 1040.

As SIPCO repeatedly argues, the Board needs to consider the evidence that SIPCO introduced. SIPCO cannot exclude Greeves simply because the Board considered it and found that it supported Emerson's arguments.

CONCLUSION

WHEREFORE, for the foregoing reasons, Emerson respectfully requests that this Court affirm the Board's decision finding that Claims 1-15 of the '780 patent are unpatentable as obvious.

Respectfully submitted,

/s/ Douglas H. Hallward-Driemeier

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Dated: June 25, 2020

CERTIFICATE OF SERVICE

On June 25, 2020, the undersigned caused the foregoing document to be filed electronically by using the Court's CM/ECF system. All parties are represented by registered CM/ECF users and will be served by the appellate CM/ECF system.

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CERTIFICATE OF COMPLIANCE

The undersigned certifies that this brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B). The brief contains 13,994 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii). This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6). The brief has been prepared in a proportionally spaced typeface using Microsoft Word 2016 in Times New Roman 14-point font.

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