

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

**Before the Honorable Cameron R. Elliot
Administrative Law Judge**

In the Matter of

**Certain Smart Ceiling Fans, Components
Thereof, and Associated Systems and Software
Thereof**

Inv. No. 337-TA-1374

RESPONDENTS' OPENING CLAIM CONSTRUCTION BRIEF

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Exhibit #	Description
1.	U.S. Patent No. 11,028,854
2.	U.S. Patent No. 11,598,345
3.	U.S. Patent No. 10,488,897
4.	Prosecution History of U.S. Patent No. 11,028,854
5.	U.S. Patent Application Publication No. 2013/0073431 (“Suro”)
6.	Prosecution History of U.S. Patent No. 11,598,345
7.	U.S. Patent Application Publication No. 2016/0047391 (“McPherson”)
8.	U.S. Patent Application Publication No. 2019/0186496 (“Monteith”)
9.	U.S. Patent Application Publication No. 2014/0163751 (“Davis”)
10.	U.S. Patent Application Publication No. No. 2017/0359193 (“Smith ’193”)
11.	Chinese Patent No. 206738206 (“Qirong”)
12.	U.S. Patent Application Publication No. 2015/0325112 (“McPherson ’112”)
13.	U.S. Patent Application Publication No. 2002/0075711 (“Miles”)
14.	Murata, <i>Noise Suppression by EMI Filtering</i> , No. TE04EA-1 at 31 (March 20, 1998) (“Murata EMI Filters”)
15.	U.S. Patent Application Publication No. 2008/0246459 (“Ingman”)
16.	U.S. Patent Application Publication No. 2009/0208333 (“Smith ’333”)
17.	U.S. Patent No. 8,770,949 (“Noble”)
18.	U.S. Patent Application Publication No. 2010/0109578 (“Tsai”)
19.	U.S. Patent Application Publication No. 2010/0019703 (“Lee”)
20.	U.S. Patent No. 8,558,494 (“Tseng”)
21.	U.S. Patent Application Publication No. 2017/0302165 (“Marcinkiewicz”)

I. INTRODUCTION

Complainant alleges that Respondents infringe 30 claims from three patents: U.S. Patent No. 11,028,854 (the “’854 patent”) (Ex. 1); U.S. Patent No. 11,598,345 (the “’345 patent”) (Ex. 2); and U.S. Patent No. 10,488,897 (the “’897 patent”) (Ex. 3) (collectively, the “Asserted Patents”). In particular, Complainant alleges that Respondents infringe claims 1-3 and 8-10 of the ’854 patent; claims 1-5, 7-9, and 11 of the ’897 patent; and claims 1, 3-10, and 12-17 of the ’345 patent (collectively, “the Asserted Claims”). The parties dispute the construction of terms that are present in the claims of the ’854 and the ’345 patents. Respondents reserve the right to ask to resolve disputes over additional terms as the case proceeds.

The Asserted Patents relate to ceiling fans. In particular, the Asserted Claims require that the fans be wirelessly controlled. The Asserted Claims also require that the claimed device receives AC power, such as from a typical residential wall-socket, to power a DC motor for the fan. Such generic and conventional technology existed long before the January 12, 2018 priority date of the Asserted Patents. Complainant seeks to improperly broaden the scope of its claims to cover these technologies at a general level in order to read them on both the competing products offered by Respondents and its own products necessary to establish a domestic industry in the United States, even though the intrinsic and extrinsic record, including significant amendments during prosecution, reveal a much narrower scope. Complainant does so under the guise of plain and ordinary meaning, seeking a broad construction by parroting the claim language despite the intrinsic evidence to the contrary. However, “courts have rejected [the] position that plain and ordinary meaning means repeating the terms at issue without further construction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, No. 1:11-CV-1120, 2013 WL 364568, at *6 (S.D. Ind. Jan. 30, 2013), *vacated on other grounds*, 755 F.3d 1367 (Fed. Cir. 2014). Complainant’s broad interpretation of its claims is untenable, particularly in view of the extensive body of relevant prior art.

Respondents' constructions, on the other hand, properly reflect how a person of ordinary skill in the art ("POSA") would interpret the claim terms in view of the intrinsic record.

II. TECHNICAL OVERVIEW

A. Overview of the '854 and '345 Patents

The '854 patent is entitled "Methods and Apparatus for Controlling Fan Devices" and issued on June 8, 2021. This patent issued from U.S. Patent Application No. 15/871,044 ("the '044 Application"), filed January 14, 2018, and its earliest claim for priority is to U.S. Provisional Patent Application No. 62/617,152, filed on January 12, 2018. The '854 patent has 12 claims, with claim 1 being the only independent claim. Complainant alleges only claims 1-3 and 8-10 are infringed by Respondents and practiced by Complainant.

The '345 patent is entitled "Methods and Apparatus for Controlling Fan Devices" and issued on March 7, 2023. This patent issued from U.S. Patent Application No. 17/340,338 ("the '338 Application"), filed June 7, 2021, and is a continuation of the '044 Application, which issued as the '854 patent. The '345 patent has 23 claims, with claim 1 being the only independent claim. Complainant alleges only claims 1, 3-10, and 12-17 are infringed by Respondents and practiced by Complainant.

The '854 and '345 patents describe fans that can communicate using two different interfaces—a radio frequency ("RF") interface that uses an RF wireless protocol and a WiFi interface that uses a WiFi wireless protocol. *See* '854 patent at 1:14–18, 2:1–6, 7:25–31.¹ The fans communicate via the WiFi interface with a WiFi router on the customer premises to enable further communication with other WiFi capable devices in the network, such as a cell phone. *Id.* at 2:6–14, 6:17–19. The fans can also be controlled, via the RF interface, by an RF control device,

¹ Cites to the '854 patent specification include corresponding cites to identical disclosures in the '345 patent specification, and vice versa.

such as a wall mounted controller. *Id.* at 2:15–18, 6:16–17; *see also id.* at 8:29–9:9. The RF interface uses a different frequency band than the frequency band used for WiFi signals, and that band can be in an unlicensed frequency spectrum. *Id.* at 2:21–25.

The fans disclosed in the '854 and '345 patents are capable of reporting changes to their state to a server located outside the customer premises via the WiFi interface. *See id.* at 2:34–39. The fans may also be controlled by the off-premises server. *Id.* at 3:5–24, 5:30–41.

FIG. 3 of the common specification is a drawing of a fan having separate RF and WiFi interfaces. *Id.* at 4:40–44. As illustrated, the RF and the WiFi interfaces are separate interfaces, each having its own receiver. *Id.* at FIG. 3; *see also id.* at 8:20–61 (“Fan unit mounting base 302 includes . . . a WiFi interface 312, an RF interface 314”). The specification further states “the WiFi interface 312 and the RF interface 314 are configured to used ***different frequency bands***, e.g., ***different non-overlapping frequency bands, and different communication protocols.***”² *Id.* at 9:3–7. The specification provides as examples of different interfaces using different frequency bands and different communication protocols, an RF interface using a “sub-GHz frequency band, e.g., 315MHz or 433 MHz” in contrast with a WiFi interface using a “2.4 GHz frequency band.” *Id.* at 11:29–38. “In some embodiments, the RF interfaces use ON OFF KEYING (OOK) 2 kSymbols/sec, Manchester Encoded protocol. In some embodiments, the WiFi interfaces use a 802.11 b/g/n/ protocol.” *Id.*

The common specification also discloses circuitry for powering a fan’s DC motor. To that end, FIG. 9 illustrates “an exemplary AC power interface 322’ coupled to an exemplary DC power supply 324’.” *Id.* at 25:38–41. The DC power supply is described as having a rectifier that receives filtered AC from the AC power interface and creates a DC BUS, which powers the fan motor. *See*

² All emphases added unless otherwise noted.

id. at 26:6–16; *see also id.* at FIG. 9. The DC power supply receives AC signals from the AC power interface and produces DC voltages that can be used to power the processor, memory, WiFi interface, RF interface, and the fan motor, among other components. *Id.* at 9:55–10:6. Moreover, claim 1 of the '345 patent requires that the RF interface and the WiFi interface, along with other components, including a processor, AC power interface, and DC power supply are “disposed in” a mounting base “configured to be mounted to a ceiling.” '345 patent, claim 1.

Claim 1 of the '854 patent (below) is representative. The disputed terms are bolded.

1. A system comprising:
a fan motor;
a fan motor control circuit;
a processor in electrical communication with the fan motor control circuit;
a radio frequency interface configured to receive, at a **first frequency**, a signal; and
a WiFi interface configured to communicate at a **second frequency that is different from the first frequency**;
wherein;
the fan motor control circuit is configured to cause the fan motor to perform an operation in response to the signal; and
the processor is configured to transmit, via the WiFi interface, to a server, **an indication corresponding to the operation**.

Claim 1 of the '345 patent (below) is also representative. The disputed terms are bolded.

1. A fan device comprising:
a DC fan motor;
a fan motor control circuit;
a processor in electrical communication with the fan motor control circuit;
a first wireless interface configured to receive from a user controller a first signal corresponding to a first user command conforming to a first communications protocol; and
a second wireless interface configured to receive from a user controller a second signal corresponding to a second user command and configured to receive from a server a third signal

corresponding to a third user command, the second signal and the third signal conforming to a second communications protocol that is different from the first communications protocol; wherein:

the fan motor control circuit is configured to cause the fan motor to perform a first operation in response to the first signal, a second operation in response to the second signal and a third operation in response to the third signal; and

the processor is configured to transmit, via the second wireless interface, to a server, ***a first indication corresponding to the first operation, a second indication corresponding to the second operation and a third indication corresponding to the third operation;***

further comprising:

a mounting base configured to be mounted to a ceiling; and

an AC power interface configured to provide AC filtered power to ***a DC power supply configured to provide DC power to the DC fan motor;***

wherein:

the processor is disposed in the mounting base;

the first wireless interface is disposed in the mounting base;

the second wireless interface is disposed in the mounting base;

the AC power interface and the DC power supply are disposed in the mounting base; and

each of the AC power interface and the DC power supply are connected to a full bridge rectifier, and the full bridge rectifier is disposed in the mounting base.

B. Overview of the '854 Patent Prosecution History

The '044 Application, which matured into the '854 patent, was filed on January 14, 2018 and claims priority to U.S. Provisional Patent Application Nos. 62/617,152, filed January 12, 2018, and 62/617,274, filed January 14, 2018. Ex. 4 ('854 patent prosecution file history) at WAC00000002–0008. The initial set of claims was rejected over U.S. Patent Application Publication 2013/0073431 (“Suro”) (Ex. 5), in the first non-final rejection. *Id.* at WAC00000124–0132. In part, Applicant distinguished the examined claims from Suro by arguing that Suro fails to disclose a fan device including “***both a radio frequency (RF) signal receiver and a WiFi interface.***” *Id.* at WAC00000154 (emphasis in original and added). The Applicant also argued that the Examiner had failed to identify what specifically “the Examiner is equating” with the claimed “fan motor,” “radio frequency signal receiver,” (which was later amended to recite a

“radio frequency interface”) and “WiFi interface.” *Id.* at WAC00000153–54, WAC00000334. The Examiner found the arguments unpersuasive and maintained the rejection. *Id.* at WAC00000287–0298. Applicant filed a Notice of Appeal and later a Request for Continued Examination (RCE), in which the Applicant submitted an amended claim 10, which corresponds to issued claim 1 in the ’854 patent. *See id.* at WAC00000334–0345 (applicant submission with RCE), WAC00000316–0320 (Applicant’s pre-appeal brief), WAC00000326 (pre-appeal conference decision), WAC00000334–0345 (claim amendments).

Following the amendment, claim 10 requires “a radio frequency interface configured to receive, at a first frequency, a signal; and a WiFi interface configured to communicate at a second frequency that is different from the first frequency,” among other things. *Id.* at WAC00000334. Applicant characterized this claim amendment as “includ[ing] subject matter from the previous version of claim 13, to which the Examiner applied Suro para. 6.” *Id.* at WAC00000339. The previous version of claim 13 recited “[t]he system of claim 11, wherein said first RF control signal and said second RF control signal are sent using *RF frequencies which are not used for WiFi signals.*” *See id.* at WAC00000085. Following the amendments and this explanation of the amendment, the Examiner allowed the claims and issued a notice of allowance for what issued as the ’854 patent. *See id.* at WAC00000347–0351.

C. Overview of the ’345 Patent Prosecution History

The ’338 Application, which matured into the ’345 patent, was filed on June 7, 2021 as a continuation of the ’044 Application, and claims priority to U.S. Provisional Patent Appl. Nos. 62/617,152, filed January 12, 2018, and 62/617,274, filed January 14, 2018. Ex. 6 (’345 patent prosecution file history) at WAC00001767–1773. After a few preliminary claim amendments, the Applicant provided a comparison showing that the initial set of claims in the ’338 Application was similar to the allowed claims in the ’044 Application, except for substituting “radio frequency

interface” for “first wireless interface,” substituting “WiFi interface” for “second wireless interface,” clarifying that the “second wireless interface” is “configured to receive signals,” and clarifying that the “processor is configured to transmit, via the first wireless interface or the second wireless interface, to a server[.]” *Id.* at WAC00002011.

The claims were rejected as “clearly anticipated” by U.S. Patent Application Publication 2016/0047391 (“McPherson”) (Ex. 7), in the first non-final rejection. *Id.* at WAC00002094–2100. The Examiner supplemented that rejection to include U.S. Patent Application Publication No. 2019/0186496 (“Monteith”) (Ex. 8) as part of an obviousness rejection. *Id.* at WAC00002126–2134. Applicant amended the claims to overcome the McPherson and Monteith rejections by requiring that the “first wireless interface” is configured to receive “a first signal conforming to a first communications protocol” and the “second wireless interface” is configured to receive “a second signal conforming to a second communications protocol that is different from the first communications protocol.” *Id.* at WAC00002234–02241. Applicant further argued that this amendment overcomes the prior art because it recites a fan device with two interfaces, “a first wireless interface and a second wireless interface.” *Id.* at WAC00002240. The Examiner found the arguments unpersuasive and maintained the rejection. *Id.* at WAC00002243–2253.

Applicant amended the claims again with several additional limitations, including requiring the fan device to transmit an “*indication corresponding to an operation performed by the fan device in response to a signal.*” *Id.* at WAC00002287, WAC00002293 (emphasis in original). Following these amendments and arguments, the Examiner allowed the claims and issued the ’345 patent. *See id.* at WAC00002302–2307.

D. Background of the Technology

Wireless control of home appliances, including ceiling fans, existed well before the earliest claimed priority date of the Asserted Patents, which is January 12, 2018. *See, e.g.*, Ex. 9 (U.S.

Patent Application Publication No. 2014/0163751 (“Davis”)) at [0002], [0128], [0140], [0143]. RF controllers, for example, operated in the sub-GHz frequency range and were preferred for many applications, including home appliances and garage door openers, because they do not need direct line of sight between the controller and the controlled device. *See id.* at [0135], [0137], [0140], [0143] (“In a typical legacy system, a special remote controller, sometimes referred to as a ‘clicker,’ would be used to send the ‘raise’ and ‘lower’ door commands to remote device 42.”). However, the prior art recognized that the growing number of appliances and a corresponding increase in the number of wireless remote controls resulted in “significant advantages to having one device [] handle all of a person’s remote control applications.” *Id.* at [0136]. It was well understood that the widespread presence of WiFi-enabled smartphones made them suitable to be that “one device.” *See id.* To that end, prior art solutions adding WiFi functionality to appliances to make them controllable by a smartphone were introduced. *Id.* at [0128] (garage doors), [0131] (ceiling fan); U.S. Patent Application Publication No. 2017/0359193 (“Smith ’193”) (Ex. 10) at [0049]–[0050] (“Any type of accessory device can be controlled [by a controller such as smartphone]. Examples of accessory devices include door lock 104, garage door system 106, light fixture 108, security camera 110, and thermostat 112.”).

The prior art disclosed many fan systems with the claimed components, including motors, processors, WiFi interfaces, and RF interfaces. *See, e.g.,* Chinese Patent No. 206738206 (“Qirong”) (Ex. 11) at [0019]–[0030], U.S. Patent Application Publication No. 2015/0325112 (“McPherson ’112”) (Ex. 12) at [0010], [0027]–[0032]. Ceiling fans traditionally used pull chains as a means of controlling the fans. Ex. 12 at [0004]–[0005]. Prior art fan systems then adopted remote control operation using wireless signals, eventually incorporating wireless control of fan functions using both RF and WiFi interfaces operating in different frequency bands. *Id.* at [0007],

[0027]–[0032]. These prior art ceiling fans also used WiFi functionality to communicate information about the status of the ceiling fan to a server via the Internet. Ex. 11 at [0025].

Similarly, power control circuits of the type disclosed in the Asserted Patents have also long been used in the fan industry. AC/DC conversion circuits having full bridge rectifiers and electromagnetic interference (EMI) filters, such as the ones disclosed in the Asserted Patents, have long been known in the art. *See, e.g.*, Ex. 13 (U.S. Patent Application Publication No. 2002/0075711 (“Miles”)) at [0018], FIG. 2; Ex. 14 (Murata, *Noise Suppression by EMI Filtering*, No. TE04EA-1 (March 20, 1998) (“Murata EMI Filters”)) at 31; Ex. 15 (U.S. Patent Application Publication No. 2008/0246459 (“Ingman”)) at [0017]–[0019]. Moreover, development of suitable brushless DC motors led to the appearance of ceiling fans with AC/DC conversion circuitry to power those DC motors.³ The DC power supply in those fans usually included full bridge rectifiers.⁴ The AC input circuitry, in turn, included filtering circuitry of the type disclosed in the Asserted Patents.⁵ The widespread adoption of this type of circuitry is also illustrated by its presence in other heating, ventilating, and air conditioning (HVAC) systems. *See, e.g.*, Ex. 21 (U.S. Patent Application Publication No. 2017/0302165 (“Marcinkiewicz”)) (disclosing AC/DC conversion circuitry with a full bridge rectifier and EMI filtering to drive an HVAC compressor).

III. LEGAL STANDARDS

Claim construction is a matter of law and is the step in which the court determines the meaning and scope of the patent claims asserted. *Markman v. Westview Instruments, Inc.*, 52 F.3d

³ *See, e.g.*, Ex. 16 (U.S. Patent Application Publication No. 2009/0208333 (“Smith ’333”)) at [0045]; Ex. 17 (U.S. Patent No. 8,770,949 to Noble (“Noble”)) at 4:6-46; Ex. 18 (U.S. Patent Application Publication No. 2010/0109578 (“Tsai”)) at [0015].

⁴ *See* Ex. 18 (Tsai) at [0019]; Ex. 19 (U.S. Patent Application Publication No. 2010/0019703 (“Lee”)) at [0007]–[0008].

⁵ *See* Ex. 17 at 4:6-46; Ex. 19 at [0007]–[0009] and element 10 of the Single Figure; Ex. 20 (U.S. Patent No. 8,558,494 (“Tseng”)) at 3:50-65.

967, 970–71, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). It is a way to “elaborat[e] the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.” *Embrex, Inc. v. Serv. Eng’g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000). “Courts do not rewrite claims; instead we give effect to the terms chosen by the patentee.” *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999).

Claim terms are assigned their ordinary and customary meaning to a person of ordinary skill in the art (“POSA”). *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). A POSA is “deemed to read [each] claim term . . . in the context of the entire patent, including the specification.” *Id.* “The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.” *Id.* at 1316.

Claim construction focuses on intrinsic evidence, which consists of the claims, specification, and prosecution history. *See id.* at 1314. The claims themselves provide substantial guidance as to the meaning of particular claim terms. *Id.* at 1314. The context in which a term is used in an asserted claim can be “highly instructive.” *Id.* Other claims in the same patent, asserted or unasserted, may also provide guidance. *Id.* The specification is also highly relevant to the claim construction analysis and “it is the single best guide to the meaning of a disputed term.” *Id.* at 1315. The specification may provide a special definition to a claim term or may reveal an intentional disclaimer of scope by the inventor. *Id.* at 1316. When “a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.” *Wisconsin Alumni Research Found. v. Apple Inc.*, 905 F.3d 1341, 1351 (Fed. Cir. 2018). Finally, the prosecution history informs the meaning of claim

language by demonstrating how the inventor understood their invention and whether they limited the scope of the claim in the course of prosecution. *Phillips*, 415 F.3d at 1317.

When intrinsic evidence does not establish the meaning of a claim, extrinsic evidence (*i.e.*, evidence external to the patent and prosecution history) is considered. *Id.* at 1317. Extrinsic evidence may also be useful to educate the court about the invention and the relevant technology. *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999).

IV. LEVEL OF ORDINARY SKILL IN THE ART

A POSA at the time of the purported inventions of the '854 and '345 patents has a Bachelor's degree in electrical or computer engineering, or a related field, and two to three years of experience with the design or implementation of wireless communication systems, control circuits, and power electronics. A higher level of education or skill can make up for less experience, and vice versa.

V. DISPUTED CLAIM TERMS

1. The "Interface" Limitations

Term	Respondents	Complainant
"a radio frequency interface configured to receive" '854 patent, claim 1	Plain and ordinary meaning "a radio frequency interface adapted to receive using a RF receiver"	Plain and ordinary meaning "Radio frequency interface that is configured to receive a signal at a first frequency"
"a WiFi interface configured to communicate" '854 patent, claim 1	Plain and ordinary meaning "a WiFi interface adapted to communicate using a WiFi transmitter and WiFi receiver separate from the RF receiver"	Plain and ordinary meaning "A WiFi interface that is configured to communicate at a second frequency that is different from the first frequency"
"a first wireless interface configured to receive" '345 patent, claim 1	Plain and ordinary meaning	Plain and ordinary meaning "a first wireless interface that is configured to receive from a

Term	Respondents	Complainant
	“a first wireless interface adapted to receive using a first receiver”	user controller a first signal corresponding to a first user command conforming to a first communications protocol”
a second wireless interface configured to receive” '345 patent, claim 1	Plain and ordinary meaning “a second wireless interface adapted to receive using a second receiver, separate from the first receiver”	Plain and ordinary meaning “a second wireless interface that is configured to receive from a user controller a second signal corresponding to a second user command and configured to receive from a server a third signal corresponding to a third user command, where the second signal and the third signal conform to a second communications protocol that is different from the first communications protocol”

Independent claim 1 of the '854 patent recites a “radio frequency interface” and separately recites a “WiFi interface.” '854 patent at cl. 1. Each interface is configured to “receive” signals or “communicate” with other parts of the claimed system. *Id.* Similarly, the '345 patent recites a “first wireless interface” and a “second wireless interface,” each of which are similarly “configured to receive” signals from other parts of the claimed “fan device.” '345 patent at cl. 1.

For the Interface Limitations, the parties dispute whether the interfaces are separate, specifically (1) whether the “radio frequency interface” must be “adapted to receive using a RF receiver” and (2) whether the “WiFi interface” must be “adapted to communicate using a WiFi transmitter and WiFi receiver separate from the RF receiver,” as proposed by Respondents. The parties similarly dispute whether the claimed first and second interfaces recited by the '345 patent claims must likewise be “adapted to receive” signals using separate receivers. Complainant’s proposals merely parrot the claim language.

a. Claims

The two claimed “interfaces” in each of the ’854 and ’345 patents are, on their face, claimed as different elements, each with their own antecedent basis:

’854 Patent:

- “a radio frequency interface”
- “a WiFi interface”

’345 Patent:

- “a first wireless interface”
- “a second wireless interface”

Each interface element is separately referred to by a different term, and each interface is thus presumed to be distinct, and comprised of separate structures. *Barrday, Inc. v. Lincoln Fabrics Inc.*, No. 2022-1903, 2023 WL 7871688, at *4 (Fed. Cir. Nov. 16, 2023) (“Where a claim lists elements separately, as done here, there is ‘a presumption that those components are distinct.’”); *see also Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (“Where a claim lists elements separately, ‘the clear implication of the claim language’ is that those elements are ‘distinct component[s]’ of the patented invention.”); *MiTile, Ltd. v. Hasbro, Inc.*, 984 F. Supp. 2d 525, 530 (E.D. Va. 2013) (same). Here, the claims recite distinct interfaces, consistent with the specification, as explained below, and a POSA would thereby understand that each of those interfaces would include its own receiver. Indeed, the claims of the ’854 patent themselves are clear that the claimed WiFi interface is not the “radio frequency interface configured to receive, *at a first frequency*,” and instead is the “WiFi interface” must be “configured to communicate at a second frequency that is different from the first frequency.” ’854 patent at cl. 1. The second wireless interface of the ’345 patent similarly is not the “first wireless

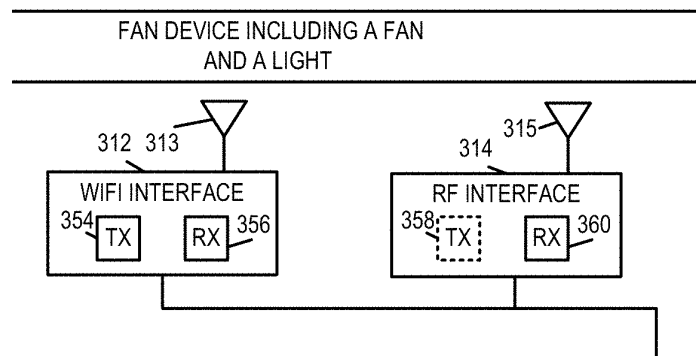
interface configured to receive . . . first signal . . . *conforming to a first communications protocol*,” given that the second wireless interface instead is “configured to receive . . . a second signal . . . the second signal . . . *conforming to a second communications protocol that is different from the first communications protocol*.” ’345 patent at cl. 1.

Furthermore, the claims of the ’854 and ’345 patents require these interfaces to be “configured to” receive or communicate. A POSA would understand that the claimed interfaces must be specifically “adapted to” perform the receiving or communicating functions, and not merely capable of doing so, as a general purpose wireless interface. *See Certain Digital Media Devices, Including Televisions, Blu-Ray Disc Players, Home Theater Systems, Tablets And Mobile Phones, Components Thereof And Associated Software*, Inv. No. 337-TA-882, Initial Determin. at 223 (July 7, 2014) (“*Digital Media Devices*”) (“[A] system is ‘adapted to’ perform a series of tasks when that system is configured to, or has all the necessary functionality to, perform the series of tasks.”); *Aspex Eyewear, Inc. v. Marchon Eyewear, Inc.*, 672 F.3d 1335, 1348–49 (Fed. Cir. 2012) (equating “adapted to” with “configured to” in construction). Here, the claims specify that the radio frequency interface and the WiFi interface are particularly configured to communicate at frequencies that are different. If the claims required only mere capability, and not specific, active implementation, the claims would not have specifically required that the “radio frequency interface” be specifically “configured to receive, at a first frequency, a signal” and that the “WiFi interface” be specifically “configured to communicate at a second frequency that is different from the first frequency.”

b. Specification

The specification repeatedly describes the RF/first interface and the WiFi/second interface, and their respective receivers and transmitters, as separate components. Indeed, the first sentence of the specification shared by the ’854 and ’345 patents describes the “*present invention*” as

relating to “fan devices, and more particularly, to methods and apparatus for controlling devices using *different interfaces*, e.g., an RF interface and a WiFi interface.” ’854 patent at 1:14–17; *see also id.* at 2:5–6 (“The fan device includes both an ***RF interface*** and a ***WiFi interface***.”), 4:40–43 (“FIG. 3 is a drawing of an exemplary controllable fan device including a controllable fan, a controllable light, an ***RF interface*** and a ***WiFi interface*** in accordance with an exemplary embodiment.”), 8:31–38 (“Fan unit mounting base 302 includes a fan motor 304, a light 306, e.g., an LED light, a fan motor control circuit 308, a light control circuit 310, a ***WIFI interface 312***, an ***RF interface 314***, a processor 316, memory 318, an AC power interface 322 and a DC power supply 324. ***WIFI interface 312*** includes a ***WIFI transmitter 354*** and a ***WIFI receiver 356***, which are coupled to antenna 313, via which the fan device 300 can send and receive WiFi signals.”), 8:57–61 (“***RF interface 314*** includes an ***RF receiver 360***, and in some embodiments, and ***RF transmitter 358***, which are coupled to antenna 315, via which the fan device 300 can send and receive RF signals.”), 9:10–13 (“***WiFi interface 312***, ***RF interface 314***, fan motor control circuit 308, light control circuit 310, processor 316 and memory 318 are coupled together via a bus 320 over which the various elements may interchange data and information.”), 10:65–11:2 (“In some embodiments, the fan device includes a single circuit board that includes the ***WIFI interface 312***, ***RF interface 314***, fan motor control circuit 308, light control circuit 310, AC power interface 322, DC power supply 324, memory 318 and processor 316.”). Consistent with every embodiment shown or discussed in the specification, Figure 3 (shown below) makes it graphically clear that the interfaces (312, 314) and their respective receivers (356, 360) and transmitters (354, 358) are separate structures. *Wisconsin Alumni Research Found.*, 905 F.3d at 1351.



'854/'345 Patent, Fig. 3 (zoomed in view of top portion)

Moreover, the specification makes clear that each of the claimed RF and WiFi interfaces include their own receiver and transmitter. *See, e.g., '854 patent at Figure 3.* Accordingly, a “radio frequency interface configured to receive” must be adapted—that is, specifically implemented in some way—to receive using a RF receiver, and a “WiFi interface configured to communicate” must be adapted to communicate using a WiFi transmitter and WiFi receiver separate from the RF receiver to communicate at a second frequency that is different from a first frequency used by the RF receiver. Likewise, a “first wireless interface configured to receive” must be adapted to receive using a first receiver, and a “second wireless interface configured to receive” must be adapted to receive using a second receiver separate from the first receiver to receive signals at a second frequency that is different from a first frequency used by the first wireless interface.

c. Prosecution History

The prosecution history further supports Respondents’ proposed construction of two separate interfaces with separate receivers and transmitters.

During prosecution of the application that eventually became the '854 patent, in overcoming an anticipation rejection, the Applicant argued that then pending claim 10 (which ultimately issued as claim 1) requires, among other things, that the claimed fan device includes the following separate components: “a fan motor,” “a radio frequency signal receiver,” (which was

later amended to recite a “radio frequency interface”) and “a WiFi interface.” *See* Ex. 4 at WAC00000153–54, WAC00000334. Applicant also argued that the Examiner failed to identify what specifically in the prior art (Suro) “the Examiner is equating” with each of these components, and asked the Examiner to “separately, clearly and precisely” identify each of the components, including the radio frequency receiver (which later was amended to require a “radio frequency interface”) and the WiFi interface. *Id.* at WAC00000153.⁶ Applicant further distinguished the examined claims from Suro by arguing that Suro fails to disclose a fan device including “***both a radio frequency (RF) signal receiver and a WiFi interface.***” *Id.* at WAC00000154 (emphasis in original and added); *see also id.* at WAC00000153. That argument also makes clear that the Applicant understood the purported inventions to require separate RF and WiFi interfaces.

Similarly, during prosecution of the application that eventually became the ’345 patent, the Applicant characterized then pending claim 52 (which ultimately issued as claim 1) in accordance with Respondents’ proposed construction to overcome prior art rejections. In a rejection, the Examiner combined a fan having a wireless communication module from McPherson with a wireless module in a fan controller that could communicate via multiple networks from Monteith, to disclose the limitations involving the “first” and “second wireless interfaces.” Ex. 6 at WAC00002129 (rejection). Specifically, the Examiner indicated that the claimed “first wireless interface” and “second wireless interfaces” were provided by a combination of a portion of McPherson’s disclosure describing a fan device with a “wireless communication module,” (Ex. 7

⁶ The prosecution history makes clear that the Applicant equated a “radio frequency (RF) signal receiver” with what was later claimed as the “radio frequency interface” because the Applicant characterized an amendment to pending claim 10 (which became issued claim 1) as including the ***subject matter*** of then pending claim 13, which required an RF control signal (received by the radio frequency signal receiver) to use a frequency that was not used for a WiFi signal. *See* Ex. 4 at WAC00000339. The incorporation of the subject matter of then pending claim 13 into pending claim 10 resulted in the following limitation in pending claim 10: “a WiFi interface configured to communicate at a second frequency that is different from the first frequency” at which the radio frequency interface receives signals.

at [0010]) with a portion of Monteith’s disclosure describing a controller for a fan that can communicate through “any suitable type of network or combination of networks.” *See* Ex. 8 at [0083]–[0085]; *see also* Ex. 6 at WAC00002129 (rejection). In response to this rejection, the Applicant amended the claim to clarify that it is the fan that should comprise the first and the second wireless interfaces, and further that the combination of McPherson and Monteith does not render obvious “a fan device comprising a first wireless interface ***and*** a second wireless interface.” *See* Ex. 6 at WAC000002235, WAC000002240 (emphasis added and omitted). Applicant’s statements are an admission that the claim requires two distinct interfaces, instead of a single one capable of accessing a combination of networks.

2. “a DC power supply configured to provide DC power to the DC fan motor”

Respondents	Complainant
Plain and ordinary meaning “a DC power supply adapted to receive the AC filtered power to provide DC power to the DC fan motor” ’345 patent, claim 1	Plain and ordinary meaning. “a DC power supply that is configured to provide DC power to the DC fan motor”

Independent claim 1 of the ’345 patent recites “a DC power supply configured to provide DC power to the DC fan motor.” ’345 patent at cl. 1. The parties dispute whether the claimed “DC power supply” must be in some way adapted to receive the AC filtered power in order to “provide DC power to the DC fan motor,” as Respondents contend. Respondents’ proposal clarifies the interaction between the AC power interface and the DC power supply and is supported by both the plain language of the claims and the specification. Complainant’s proposal merely parrots the claim language.

Without the clarification proposed by Respondents, the claim language would leave open the possibility that the AC filtered power need not be received by the DC power supply to—in some way—provide DC power to the DC fan motor. To interpret the limitation in this fashion would defy the logic of the claim language and would allow for a scenario in which the AC filtered power need not be used in any way by the DC power supply to provide DC power to the DC fan motor. At its extreme, the “DC power supply” need not be connected, or indeed, serve any purpose at all with respect to the DC fan motor. Such an interpretation would conflict with the structure and context of the limitation itself.

a. Claims

Guided by the claim language itself, Respondents’ proposal clarifies that the DC power supply must be adapted to receive the AC filtered power in order to provide DC power to the DC fan motor. *Phillips*, 415 F.3d at 1314 (“the claims themselves provide substantial guidance as to the meaning of particular claim terms”). The term appears in the following limitation:

an AC power interface configured to provide AC filtered power to **a DC power supply configured to provide DC power to the DC fan motor**

Because claim 1 of the ’345 patent describes the DC power supply that receives AC filtered power and is “configured to provide DC power to the DC fan motor,” there should be no reasonable dispute that claim 1 requires the DC power supply be adapted to receive AC filtered power provided by the AC power interface, and the DC power supply in turn must be specifically adapted in some way “to provide DC power to the DC fan motor.” *See Digital Media Devices*, Initial Determin. at 223; *Aspex Eyewear*, 672 F.3d at 1348–49. Dependent claims 5-6 of the ’345 patent (requiring that the claimed fan system “has a state”) further underscores that the “configured to” language used in the claims requires active implementation and not mere capability. *See Digital Media Devices*, Initial Determin. at 223; *Aspex Eyewear*, 672 F.3d at 1348–49. Moreover, if the AC

power interface is adapted to provide AC filtered power to a DC power supply, the DC power supply must accordingly be adapted in some way to receive the AC filtered power from the AC power interface.

Respondents' proposal further clarifies that the DC power supply receiving the AC filtered power is to provide power for the DC motor. One of ordinary skill in the art would have understood this limitation that both describes the AC power interface providing AC filtered power to a DC power supply, and the DC power supply then providing DC power to the DC fan motor to mean that the DC power supply is adapted to receive the AC filtered power to provide DC power to the DC fan motor. This understanding is not just consistent with the '345 patent specification. It is the sole disclosed operation of a DC power supply in the '345 patent specification. *See* '345 patent at 26:6–16 (operation of DC power supply in the fan device); 7:32–64 (operation of DC power supply in a wall control unit).

Complainant's proposal simply repeats the claim language with a minor, unhelpful addition, "a DC power supply **that is** configured to provide DC power to the DC fan motor," which fails to clarify the meaning and scope of the term.

b. Specification

The specification further supports Respondents' proposal. An annotated version of Figure 9 of the '345 patent is shown below, with the AC power interface highlighted in yellow and the DC power supply highlighted in orange. The '345 patent explains that the AC power interface produces filtered AC power. '345 patent at 25:49–53 ("After the fuse F1 1002, there are several components, varistor RV1 1004, common mode choke L1 1006, and capacitors C5 1008, C7 1010 and C11 1012, which contribute to the AC filtering, and produce a filtered AC."); *see also id.* at 9:55–61 (describing the AC power interface as performing filtering and outputting power to other components of the fan including the DC power supply). The specification explains that the varistor

RV1, common mode choke, and capacitors are all part of the AC power interface. *Id.* at 25:45–53.

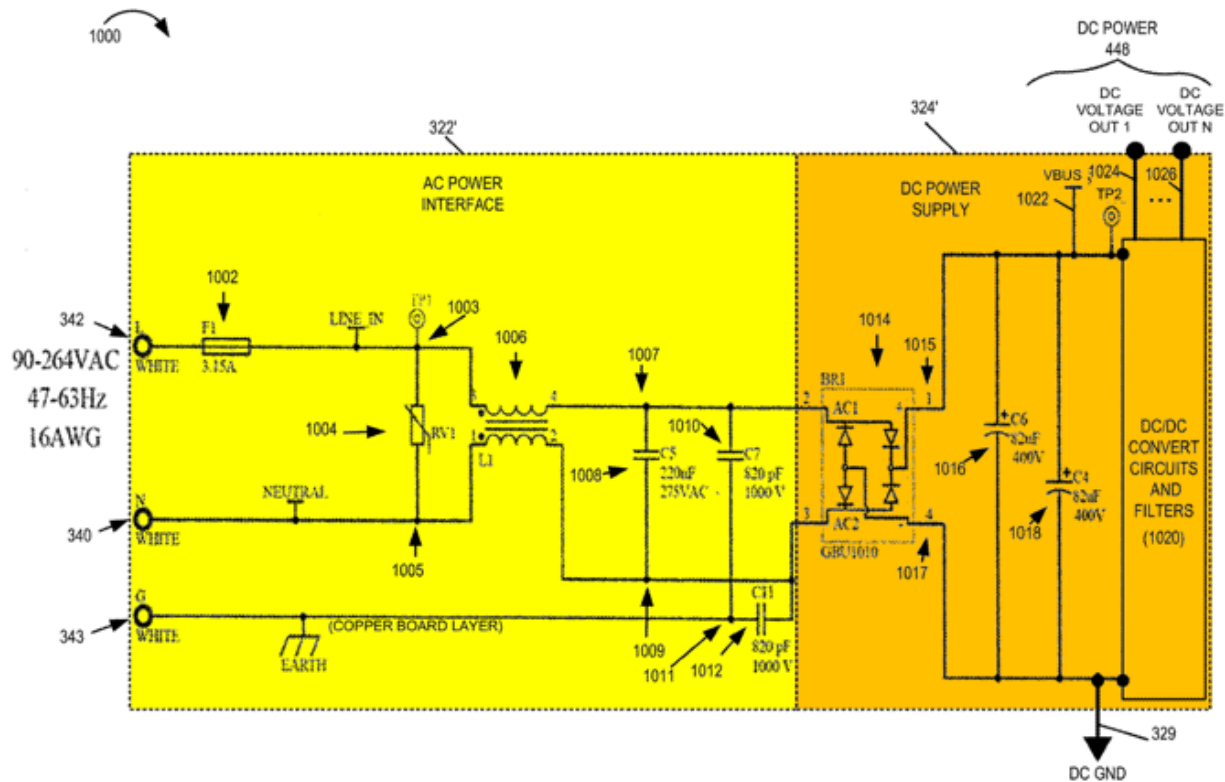
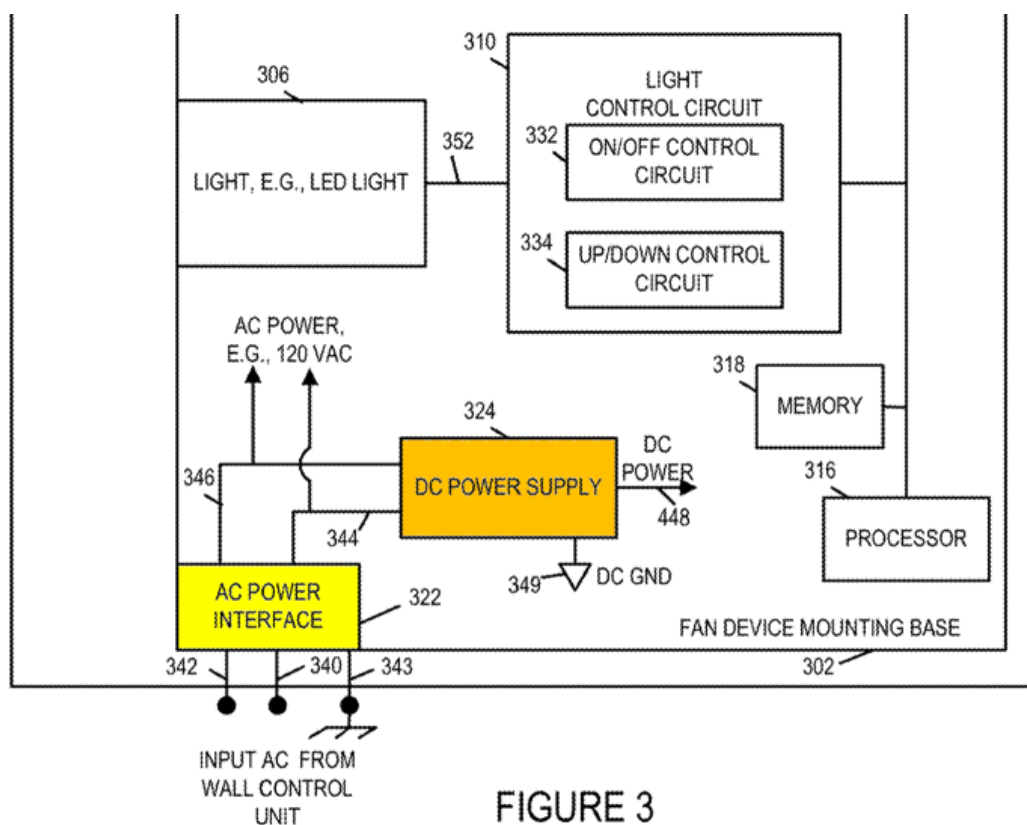


FIGURE 9

'854/'345 patent, Fig. 9 (annotated)

The specification further supports Respondents' construction because it describes that the DC power supply receives the AC filtered power. For example, the filtered AC power is provided through lines 1007 and 1009 to the DC power supply, as shown in Figure 9 above. *Id.* at 26:12–16 (“BR1 1014, is a Full bridge rectifier BR1 1014, e.g., a GPP 10 A 1000V GBU rectifier bridge, takes the filtered AC from lines (1007, 1009) and makes a DC BUS, V BUS 1022, with respect to DC ground 329, across its outputs 1015, 1017.”); *id.* at 26:6–9 (describing the components of the DC power supply).

Further support is illustrated in FIG. 3, a portion of which is reproduced below. Again, the AC power interface is highlighted in yellow and the DC power supply is highlighted in orange. “Input AC, e.g., 120VAC, is received from a wall control unit. . . . AC power interface 322 conditions the received AC, e.g., performing filtering, and outputs conditioned AC power on lines 344, 346, which are used as input by other elements within fan device, e.g., . . . the DC power supply 324. DC power supply 324 generates and outputs one or more DC voltages.” *Id.* at 9:55–10:6.



'854/'345 Patent, Fig. 3 (zoomed in view of bottom portion, annotated)

Accordingly, the '345 patent specification demonstrates that the AC filtered power is received by the DC power supply (*i.e.*, the “DC power supply adapted to receive the AC filtered power to provide DC power to the DC fan motor”).

3. The “Indication” Limitations

Term	Respondents	Complainant
“an indication corresponding to the operation” '854 patent, claim 1	Plain and ordinary meaning “a message indicating the operation has been performed”	Plain and ordinary meaning “an indication that corresponds to the operation”
“a second indication corresponding to the second operation” '854 patent, claim 2 '345 patent, claim 1	Plain and ordinary meaning “a second message indicating the second operation has been performed”	Plain and ordinary meaning “a second indication that corresponds to the second operation”
“a first indication corresponding to the first operation, a second indication corresponding to the second operation and a third indication corresponding to the third operation” '345 patent, claim 1	Plain and ordinary meaning “a first message indicating the first operation has been performed, a second message indicating the second operation has been performed and a third message indicating the third operation has been performed”	Plain and ordinary meaning “A first indication that corresponds to the first operation, a second indication that corresponds to the second operation and a third indication that corresponds to the third operation”

The '854 and '345 patents recite nearly identical limitations relating to “indication[s].” *See, e.g.*, '854 patent at cls. 1-2; '345 patent at cl. 1. The parties dispute whether the claimed “indication” is a message and whether that message must indicate that the operation “has been performed,” as Respondents contend.

a. Claims

The claim language supports Respondents’ proposal. In independent claim 1 of each of the '854 and '345 patents, the claim requires the system have a “fan motor control circuit [] configured to cause the fan motor to perform an operation in response to the signal.” *See* '854 patent at cl. 1; *see also* '345 patent at cl. 1 (“the fan motor control circuit is configured to cause the fan motor to perform a first operation in response to the first signal, a second operation in

response to the second signal and a third operation in response to the third signal”). Likewise, the processor is configured to transmit to a server “an indication corresponding to the operation.” ’854 patent at cl. 1; *see* ’345 patent at cl. 1 (“the processor is configured to transmit, via the second wireless interface, to a server, a first indication corresponding to the first operation . . .”). Respondents’ construction clarifies that the “indication corresponding to the operation” is referring back to the antecedent “indication” that the “fan motor” performs and, therefore, the “indication” transmitted by the processor related to that performed operation.

Complainant’s proposal – “an indication that corresponds to the operation” – only changes “corresponding” to “that corresponds,” doing nothing to clarify that the information transmitted must relate to the operation that “has been performed.” Without the clarification proposed by Respondents, “an indication corresponding to the operation” could refer to a user’s request that the fan perform an operation (e.g., to turn the fan on), whether or not the fan actually performs the requested operation. As detailed below, such an interpretation is inconsistent with the description of the invention in the specification. *See Atlas IP, LLC v. Medtronic, Inc.*, 809 F.3d 599, 608 (Fed. Cir. 2015) (“Context must determine whether that is a sound interpretation.”).

b. Specification

Because the word “indication” only appears in the claims and not in the specification, it is particularly appropriate to consider “the patent’s description of the invention.” *Phillips*, 415 F.3d at 1316. Here, the specification supports Respondents’ construction. *Id.* at 1315 (“claims must be read in view of the specification”). *See also Wisconsin Alumni Research Found.*, 905 F.3d at 1351 (When “a patent ‘repeatedly and consistently’ characterizes a claim term in a particular way, it is proper to construe the claim term in accordance with that characterization.”).

The specification confirms that each claimed “indication” is a message. *See* ’854 patent at 12:8–13:4 (referring to the transmission and receipt of messages). Moreover, consistent with

Respondents' proposal, the message indicates that the operation has been performed. The specification refers to "implementing" an operation in response to commands received at the fan device and communicating "information indicating the operation implemented" via the WiFi interface. *Id.* at 3:42–47; *see also id.* at 10:42–46 ("In various embodiments, processor 316 is configured to generate and send a device status reporting message, e.g., in response to a received and implemented RF control signal or a received and implemented WiFi control message."); 10:58–60 ("In various embodiments, a device status reporting message can, and sometimes does, include an aggregate of multiple received and implemented commands.").

With reference to Figure 4A (shown annotated below), the specification states: "Consider that the fan in fan device 1 110 is currently off. In response to the received recovered command in RF signal 404, in step 408 fan unit 1 110 turns on its fan, which is fan 1. In step 410, fan device 1 110 generates and sends a reporting message 412 to WiFi router 1 114 reporting that fan 1 is on." *Id.* at 11:49–54. Further, "[i]n step 414 WiFi router 118 receives message 412 and recovers the communicated information. In step 416 WiFi router 118 generates reporting message 418, indicating that fan 1 is on, and sends message 418, via the Internet 106, to control server 108." *Id.* at 12:8–12. Thus, the specification unambiguously explains what the "indication corresponding to the operation" sent by the processor is. At first, the fan starts in the off state. Next, the fan is turned on, which is the result of the fan motor performing the operation that turns the fan on in response to a signal received by the radio frequency interface. Lastly, a message is sent via WiFi to a server communicating that the fan is now on, *i.e.*, that the operation to turn the fan on has been performed.

Moreover, the specification uses similar language to describe "a second indication corresponding to the second operation" recited in claim 2 of the '854 patent: "Consider that light

1 is in an OFF state. In response to the recovered command of signal 424, in step 428 fan device 1 110 turns on light 1. In step 430, fan device 1 110 generates and sends a reporting message 432 to WiFi router 1 118 reporting that light 1 is on. In step 434 WiFi router 118 receives message 432 and recovers the communicated information. In step 436 WiFi router 118 generates reporting message 438, indicating that light 1 is on, and sends message 438, via the Internet 106, to control server 108.” *Id.* at 12:22–31. Thus, consistent with the sequence described above for the fan motor, the light is initially in the off state. Next, the light is turned on, which is the result of the fan light performing the operation that turns the light on in response to a signal received by the radio frequency interface. Lastly, a message is sent via WiFi to a server communicating that the light is now on, *i.e.*, that the operation to turn the light on has been performed.

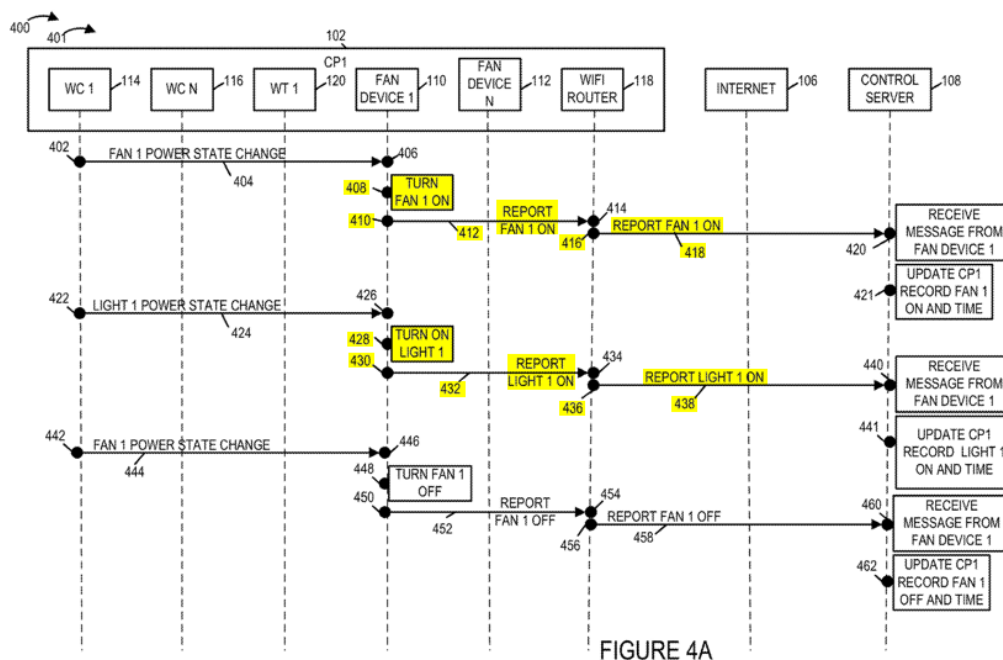


FIGURE 4A

'854/'345 Patent, Fig. 4A (annotated)

c. Prosecution History

The prosecution history further confirms that the Applicant understood this claim language to mean that an “indication” transmitted by the processor should indicate the operation has been performed. To overcome a prior art rejection, the Applicant characterized the “indication corresponding to an operation” in a heading called “B. indication corresponding to an *operation performed by the fan device* in response to a signal.” Ex. 6 at WAC00002293 (emphasis in original and removed). Applicant further distinguished from the prior art by stating that “[t]he McPherson para. 87 ‘data message’ does not correspond to an *operation performed by the fan device* in response to a signal received by the fan device.” *Id.* at WAC000002294. This language is unequivocal and supports Respondents’ proposed construction.

4. The “Frequency” Limitations

Term	Respondents	Complainant
“first frequency” '854 patent, claim 1	Plain and ordinary meaning “RF frequency in a different frequency band than the frequency band used for WiFi signals”	Plain and ordinary meaning “first frequency”
“second frequency that is different from the first frequency” '854 patent, claim 1	Plain and ordinary meaning “WiFi frequency in a different frequency band than the frequency band used for RF signals”	Plain and ordinary meaning “second frequency different from the first frequency”

While the parties agree that the terms “first frequency” / “second frequency that is different from the first frequency” should have their plain and ordinary meaning, the parties disagree about what that meaning should be. Based on the intrinsic record, Respondents contend that the claimed “first frequency” is an RF frequency in a different frequency band than the frequency band used for WiFi signals. Similarly, Respondents contend that the claimed “second frequency that is

different from the first frequency” is a “WiFi frequency in a different frequency band than the frequency band used for RF signals.”⁷ Complainants simply parrot the claim language.

a. Claims

The claims themselves are consonant with Respondents’ proposed construction. Claim 1 recites “a radio frequency [RF] interface configured to receive, at a first frequency, a signal.” A POSA would understand an “RF interface” to receive signals at a “RF frequency” (*i.e.*, the claimed “first frequency”). Similarly, claim 1 recites “a WiFi interface configured to communicate at a second frequency that is different from the first frequency.” A POSA would similarly understand a “WiFi interface” to communicate at a “WiFi frequency” (*i.e.*, the claimed “second frequency”). In light of the specification, a POSA would understand an RF frequency to be in a different frequency band from the frequency band used for WiFi signals.

b. Specification

To understand what is meant by the “second frequency that is *different* from the first frequency” in the context of claim 1, a POSA would look at the specification’s description of the “first frequency” and “second frequency.” As described in the specification, for the “first frequency,” the “RF interface uses a *different frequency band* than the frequency band used for WiFi signals.” ’854 patent at 2:21–22. This description in the specification is not limited to embodiments but instead describes that the invention contemplated and claimed includes, among other things, an RF interface that uses a different frequency band than the frequency band used for WiFi signals. This is repeated throughout the specification, which makes clear that the different frequencies used by the RF interface and the WiFi interface are from different frequency bands. *See Wisconsin Alumni Research Found.*, 905 F.3d at 1351. *See* ’854 patent at 4:15–19 (“The

⁷ A frequency band (sometimes called a spectrum) is a range of frequencies, e.g., 2.4 GHz to 2.4835 GHz, used for WiFi signals.

control signals are transmitted to the fan device using *a RF frequency band which is different from that used for WiFi signals* at the customer premise where the controller is located.”); 9:3–7 (“In various embodiments, *the WiFi interface 312 and the RF interface 314 are configured to use different frequency bands*, e.g., different non-overlapping frequency bands, and different communications protocols.”); 11:29–32 (“In some embodiments, the RF and WiFi interfaces while both being wireless interfaces are *different interfaces and use different frequency bands* and different communications protocols.”). The specification further identifies specific frequency bands (and protocols) used by the RF and WiFi interfaces. *See id.* at 11:32–38 (“In some embodiments, the RF interfaces use a sub-GHz frequency band, e.g., 315 MHz or 433 Mhz, and the WiFi interfaces use a 2.4 GHz frequency band. In some embodiments, the RF interfaces use ON OFF KEYING (OOK) 2 kSymbols/sec, Manchester Encoded protocol. In some embodiments, the WiFi interfaces use a 802.11 b/g/n protocol.”); 26:66–27:4 (“The RF interface 314 uses a *different frequency band than the frequency band used for WiFi signals* sent to/from the WiFi router 118. In some embodiments the RF interface 314 uses an unlicensed frequency spectrum which is different than that used for WiFi signals.”); 28:61–65 (“The control signals are transmitted to the fan device 300 using a *RF frequency band which is different from that used for WiFi signals* at the customer premises where the controller 202 is located.”). A POSA would understand the plain and ordinary meaning of the claimed “different” frequencies, in light of the specification, to refer to a RF frequency and a WiFi frequency in different frequency bands.

c. Prosecution History

The prosecution history also supports Respondents’ construction. The Applicant characterized the amendment that introduced the limitation requiring a “second frequency that is different from the first frequency” in a manner consistent with Respondents’ proposed construction. Specifically, the Applicant characterized the amendment to claim 10 (which became

issued claim 1) as including the *subject matter* of claim 13, which required an RF control signal to use a frequency that was not used for a WiFi signal. *See* Ex. 4 at WAC00000339 (“Applicant notes that claim 10 includes subject matter from the previous version of claim 13.”); *see also id.* at WAC00000334 (amendment to claim 10). The relevant portions of pre-amendment, and amended, claims 10, 11, and 13, are indicated below in colors showing how the corresponding claim language was modified:

Pre-Amendment Claim 10	Amended Claim 10
“A system comprising: ... a radio frequency (RF) signal receiver configured to receive radio frequency (RF) control signals from a control unit, said fan device and said control unit being located at a customer premises; a WiFi interface; a fan motor control circuit configured to control the fan motor in response to a received first radio frequency control signal, said first radio frequency control signal communicating a first command; . . .”	“A system comprising: ...; a radio frequency interface configured to receive, at a first frequency, a signal; and a WiFi interface configured to communicate at a second frequency that is different from the first frequency; . . .”
Pre-Amendment Claim 11	
“The system of claim 10, wherein said fan device further comprises: a light; and a light control circuit configured to control the light in response to a received second radio frequency control signal, said second radio frequency control signal communicating a second command; . . .”	
Pre-Amendment Claim 13	
The system of claim 11, wherein said first RF control signal and said second RF control signal are sent using RF frequencies which are not used for WiFi signals.	

Id. at WAC00000334–0335.

Claim 13, when read in conjunction with parent claims 10 and 11, recites that the “RF signal receiver” is configured to receive the “first radio frequency control signal” and the “second radio frequency control signal” in frequencies which “are not used for WiFi signals.” In other words, the recited RF signal receiver is configured to receive signals that are outside of the WiFi frequency band. Applicant’s statement including the subject matter of claim 13 in claim 10 shows that amended claim 10 (which resulted in issued claim 1) requires the RF signals to be outside the WiFi frequency band. That conclusion is reflected in Applicant’s arguments explaining that the claimed RF interface is configured to receive a signal at a first frequency, the claimed WiFi interface is configured to communicate at a second frequency, and that the second frequency is different from the first frequency.

Based on the claim language itself, understood in view of the patent specification and the prosecution history, a POSA would understand that the “second frequency that is different from the first frequency,” as recited in claim 1, refers to a WiFi frequency in a different frequency band than the frequency band used for RF signals. Similarly, a POSA would understand that the “first frequency,” as recited in claim 1, is an RF frequency in a different frequency band than the frequency band used for WiFi signals.”

VI. CONCLUSION

For the foregoing reasons, the Court should adopt Respondents’ proposed constructions.

Dated: January 31, 2024

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CERTIFICATE OF SERVICE

I, C. Daniel Treviño, hereby certify that the attached **RESPONDENTS' OPENING CLAIM CONSTRUCTION BRIEF** has been served upon the following parties as indicated below on January 31, 2024.

The Honorable Lisa R. Barton Secretary to the Commission U.S. International Trade Commission 500 E Street SW, Room 112-A Washington, D.C. 20436	☒ Via EDIS ☐ Via First Class Mail ☐ Via Express Delivery ☐ Via Hand Delivery (copies as required)
The Honorable Cameron R. Elliot Administrative Law Judge U.S. International Trade Commission 500 E Street, S.W., Room 317 Washington, D.C. 20436 Attorney Advisor Michael Turner Email: Michael.Turner@usitc.gov	☒ Via EDIS ☐ Via First Class Mail ☐ Via Express Delivery ☐ Via Hand Delivery (copies as required) ☒ Via Electronic Mail
<i>Counsel for Complainant</i> David F. Nickel Foster, Murphy, Altman & Nickel, PC 1150 18th Street, N.W., Suite 775 Washington, D.C. 20036 Email: FM-WAC-1374@fostermurphy.com David C. Radulescu Radulescu LLP 5 Penn Plaza, 19th Fl. New York, NY 10001 Email: RADIP-WAC-1374@radip.com	☐ Via EDIS ☐ Via First Class Mail ☐ Via Express Delivery ☐ Via Hand Delivery ☒ Via Electronic Mail

/s/ C. Daniel Treviño _____

C. Daniel Treviño