

**IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

PROCOMM INTERNATIONAL PTE. LTD.,)

Plaintiff,)

v.)

VERIZON COMMUNICATIONS, INC.,)

CELLCO PARTNERSHIP D/B/A VERIZON)

WIRELESS, TELEFONAKTIEBOLAGET LM)

ERICSSON, and ERICSSON INC.,)

Defendants.)

Case No. 2:24-cv-00009-RWS-RSP

JURY TRIAL DEMANDED

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

At issue are claim terms for two patents: U.S. Patent No. 8,583,100 (the “’100 Patent”) and U.S. Patent No. 7,724,521 (the “’521 Patent”). For the disputed terms of the ’100 Patent, one in each of the two asserted claims (Claims 15, 19), Procomm’s “plain and ordinary meaning” proposal is a façade, as it advances non-construction arguments while pursuing interpretations, for infringement purposes, that are inconsistent with the plain meaning of these terms in the context of the claim language as a whole and the intrinsic evidence. For the disputed terms of the ’521 Patent, Defendants’ constructions clarify the disputed terms in a manner consistent with the intrinsic evidence in the context of the claim language as a whole. Procomm does not meaningfully address these constructions.

II. BACKGROUND OF THE ASSERTED PATENTS

A. The ’100 Patent

When the ’100 Patent application was filed, “[t]raditional wireless communication systems may have distributed antennas to expand the range of a centralized base station.” Dkt. 48, Ex. 1 (’100 Pat.), 1:15-17. As the ’100 Patent explains, there was a problem with these Distributed Antenna Systems (DAS) which used “a centralized base station”: “[a]ny signals received by the distributed antennas must be sent back to the centralized base station for processing regardless of where the ultimate destination of the signal is located. This causes unneeded transmission of signals and results in increased latencies for users of the system.” *Id.*, 1:17-21. The inventors stated that “[t]he above-mentioned problems of current systems are addressed by embodiments of the present invention and will be understood by reading and studying the following specification.” *Id.*, 1:36-38.

Importantly, FIGS. 8-9 of the ’100 Patent are the only disclosed embodiments in which signals are “rout[ed] ... [over/through] a network of” these distributed antenna stations (called

“remote wireless communication stations” in the Asserted Claims). *Id.*, claims 15, 19, 9:2-10:5. The “distributed base station system 800” embodiment of FIG. 8 (annotated below) includes a central node 801 having an IP gateway, and a plurality of remote wireless communication stations 802, 804, 806, 808, 810, 812 (blue). “Each remote station 802, 804, 806, 808, 810, 812 [blue] includes a remote unit 814, 816, 818, 820, 822, 824,” – with the respective remote units 818 and 820 of remote stations 806 and 808 each including base station functionality (orange) – “an antenna 826 [pink], and a router 828 [red].” *Id.*, 9:2-8 (emphasis added).

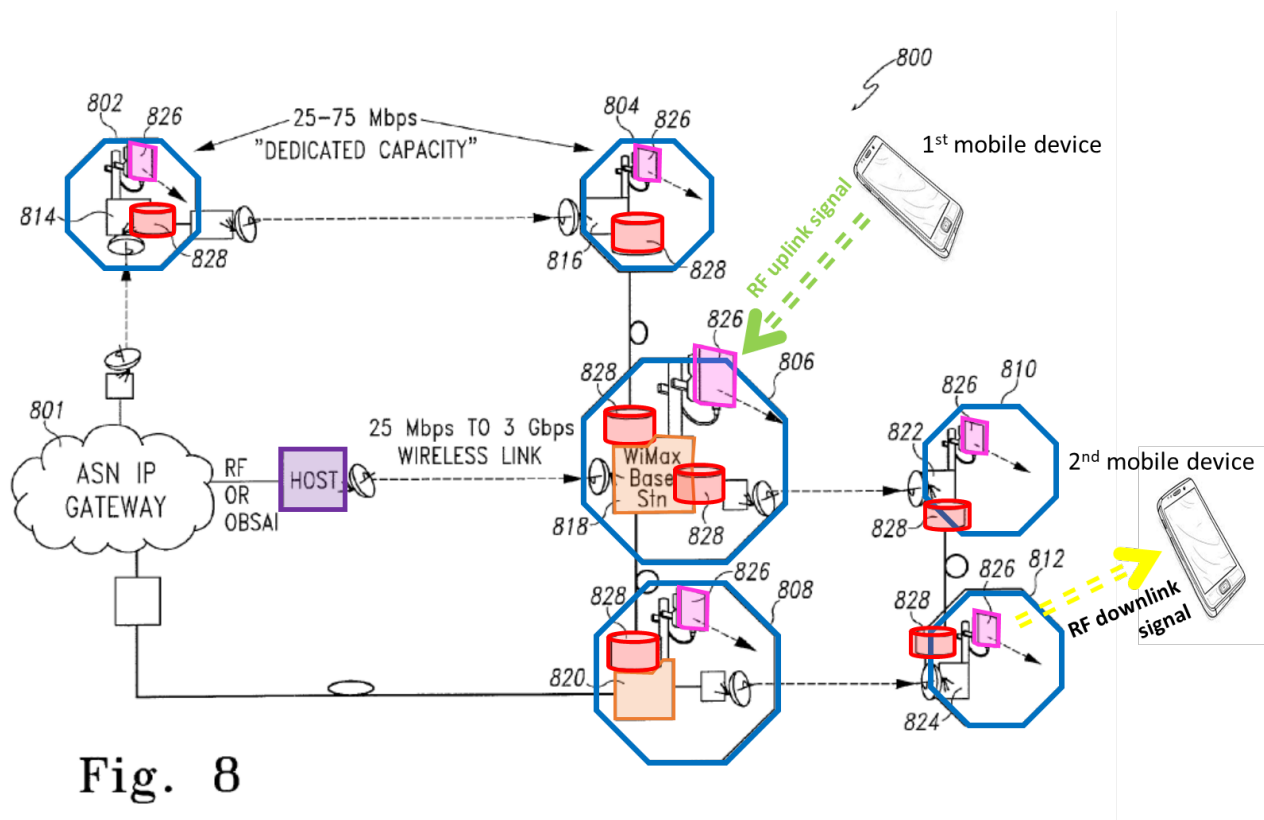


Fig. 8

In other words, as stated in the plain language of the above-quoted text, and illustrated above, each remote station (blue) has its own separate antenna (pink) and its own separate router (red). *Id.*

The '100 Patent states that these FIGS. 8-9 embodiments have “many advantages over traditional centralized base station systems.” *Id.*, 9:2-10:5. For example, because “remote station[] 806 [blue, center] ... [is also] equipped with a base station [orange]” in its own separate remote

unit 818, it “do[es] not need to transmit signals back to central node 801 for base station processing.” *Id.*, 9:8-9, 9:19-23, 10:2-5. The ’100 Patent provides an example illustrating these advantages over the “traditional centralized base station systems” disparaged in the Background:

[W]hen an RF signal is received [from a first mobile device, top right] via antenna 826 [pink] at remote station 806 [blue, center], ... remote station 806 processes the RF signal with remote unit 818, which is configured as a base station [orange]. Processing the RF signal forms a second RF signal which is then routed toward the destination of the RF signal ... which is ... a second mobile device [bottom right] ... within transmission range of remote station 812 [blue, bottom right]. Thus, after processing by remote unit 818 [orange] at remote station 806 [blue, center], routers 828 [red] at remote stations 806, 810, 812 route the second RF signal through remote station 810 [blue, right] to remote station 812 [blue, bottom right]. Thus, distributed base station system 800 simplifies and speeds up the processing of wireless signals.

Id., 9:19-41, 1:15-21. Additionally, because in the FIG. 8 embodiment “**each** remote station 802, 804, 806, 808, 810, 812 [blue] **includes a** router [red], a best path is found from the origination remote station to the destination remote station. This decreases the latency of communication transmission, and also reduces unnecessary network traffic.” *Id.*, 9:42-48 (emphasis added); *see also id.*, 9:2-7, 9:58-64. In other words, as stated in the plain language of the above-quoted text, because each remote station (blue) of FIG. 8 has its own separate router (red), in the example where remote station 806 (blue, center) is the signal origination station and remote station 812 (blue, bottom right) is the signal destination station 812, a “best path” (e.g., least congested path) can be found between (1) the remote-station-806-to-remote-station-810-to-remote-station-812 path, and (2) the remote-station-806-to-remote-station-808-to-remote-station-812 path. *Id.*

B. The ’521 Patent

The ’521 Patent is directed to systems and methods for Venturi, fan-assisted cooling. It describes “a fan assisted cooling unit 210” “placed at the top of enclosure 100” as illustrated in, e.g., FIG. 2D:

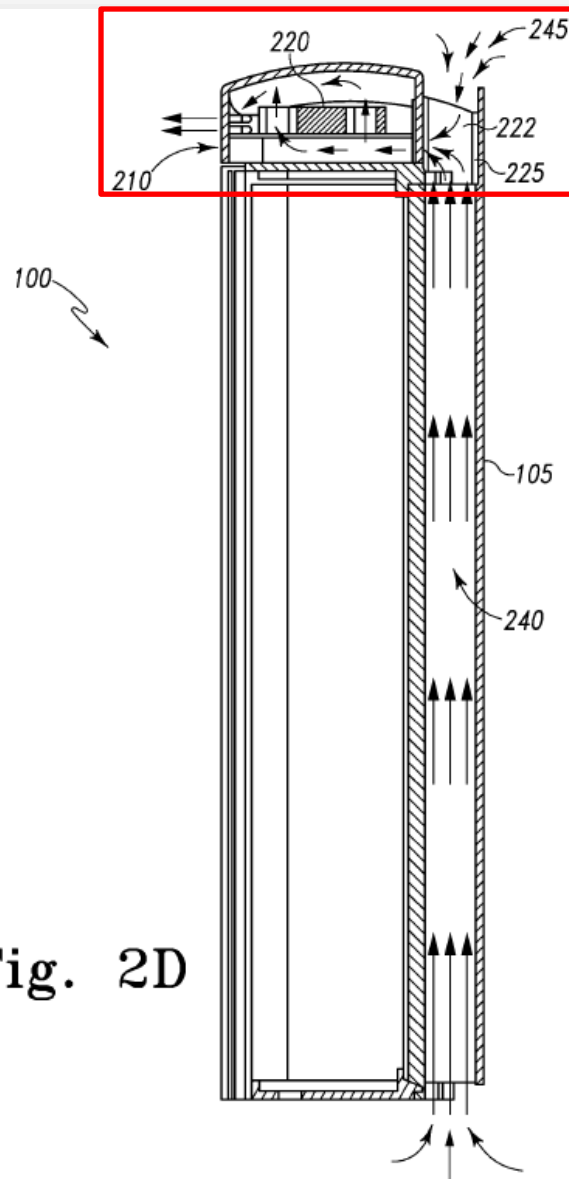


Fig. 2D

Dkt. 48, Ex. 2 ('521 Patent), 4:10-14, FIG. 2D (annotated). Cooling unit 210 comprises “a Venturi chamber 222 formed from a continuous wall 225 connected on each end to fan shroud 215.” *Id.*, 4:26-28. “Wall 225 extends upwards along the circumference of backplane 105 in order to encircle the top openings of convective openings 140 within Venturi chamber 222.” *Id.*, 4:31-34. Wall 225 directs “air [245] coming in from the top of Venturi chamber 222” “across the heated airflow [240] from” convective openings. *Id.*, 4:48-50. “[D]rawing a first airflow [245] across one or

more convective openings of the heatsink” results in “drawing a second airflow [240] of heated air from the one or more convective openings using a Venturi effect created by drawing the first airflow [245].” *Id.*, 3:61-6. While the ’521 Patent describes variation in the size of Venturi chamber 222 (*id.*, 4:62-5:11), Venturi chamber 222 is only described as being located on top and at the end of enclosure 100.

III. DISPUTED CLAIM TERMS

A. The ’100 Patent

1. “each remote wireless communication station having a co-located, network layer router” (’100 Patent, claim 15)

Procomm’s Construction	Defendants’ Construction
Plain and ordinary meaning as informed by the intrinsic evidence, no construction necessary	Plain and ordinary meaning, which is ¹ “each remote wireless communication station having its own separate co-located, network layer router”

Procomm’s “plain and ordinary meaning” proposal of this claim term is a façade as it advances a non-construction argument while pursuing, for infringement purposes, an interpretation in which **a single** “network layer router” **is shared by** the “first remote wireless communication station” and the “second remote wireless communication station” recited in claim 15. Procomm’s position is inconsistent with the plain meaning of this claim term, which is instead captured by Defendants’ construction.

Claim 15 recites, in relevant part:

15. A method of transmitting a wireless communication signal comprising:

receiving a first RF signal at an antenna of a first remote wireless communication station;

processing the first RF signal by a base station at the first remote wireless communication station;

¹ Defendants clarify that their position is (and has always been) that their proposed constructions for the ’100 Patent disputed claim terms are the plain and ordinary meaning of such terms.

generating a second RF signal and a first transport signal representing a duplicate of the second RF signal at the first remote wireless communication station;

* * * * *

routing the first transport signal through a network of remote wireless communication stations to a second remote wireless communication station, **each remote wireless communication station having a co-located, network layer router;**

transmitting a duplicate of the second RF signal based on the first transport signal from the antenna of the second remote wireless communication station;

* * * * *

'100 Pat., claim 15 (disputed claim term in bold, underlining added for additional emphasis).

As can be seen above, the claimed method requires a sequence of steps in which, “a first transport signal” is “generat[ed] ... at the first remote wireless communication station,” which is recited as having “an antenna” and “a base station.” Next, “the first transport signal” – which was “generat[ed] ... at the first remote wireless communication station” – is “rout[ed] ... through a network of remote wireless communication stations to a second remote wireless communication station” (which is also recited as having “an antenna”). Then, “based on the first transport signal” – which was “rout[ed] ... to [the] second remote wireless communication station” from the “first remote wireless communication station” – an RF signal is “transmitt[ed] ... from the antenna of the second remote wireless communication station.” Related to this intervening “routing” step, claim 15 recites: “**each** remote wireless communication station **having a** co-located, network layer router.”

The claim language is simple and means what it says. In performing the claimed method, a plurality of “remote wireless communication stations” is required, where each remote station has its own separate (1) “antenna,” and (2) “network layer router” that is “co-located” with it. In other words, within the claimed “network of remote wireless communication stations” (plural), there are

a plurality of antennas and a plurality of network layer routers distributed among the plurality of remote wireless communication stations. Thus, “**each** remote ... station **having a** ... router,” in the context of claim 15, means exactly what both a layperson, and a person of ordinary skill in the art (“POSITA”), would understand this language to mean in everyday usage – of the two or more remote stations in the “network,” each station has its own separate router. *See, e.g.,* Ex. A (DEFS-PRCM-EE_0000030) (dictionary defining “each” as “every one of two or more considered individually or one by one ... [Synonym] Each, every are alike in having a distributive meaning. Of two or more members composing an aggregate, each directs attention to the separate members in turn: Each child (of those considered and enumerated) received a large apple. ... Usage. The adjective each is always followed by a singular noun: each person, each book.”); Ex. B (DEFS-PRCM-EE_0000025) (dictionary defining “each” as “every one of two or more persons or things, regarded and identified separately: each person; five in each class. ... each person or thing (each of us; have two books each; cost a penny each).”).

A layperson would understand, as illustrated in the dictionary examples above, (1) “**each** child **received a** large apple” means, of the two or more children composing an aggregate, each child received its own separate large apple, and (2) “**have** two books **each**” means that, if there are two children, there are four total books, with each child having his/her own separate two books. *Id.* Likewise, to a layperson and a POSITA, “**each** remote wireless communication station **having a** co-located, network layer router” means, of the two or more remote stations in the “network,” each station has its own separate co-located, network layer router. This is one of those cases where “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than

the application of the widely accepted meaning of commonly understood words.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*).

Just as neither a layperson nor a POSITA would understand the examples above to mean that a single large apple is shared among these two or more children, or that two books are shared among the two (or more) children, nothing in claim 15 suggests – as Procomm pursues for infringement purposes – that “**each** remote ... station **having a** ... router” should be interpreted as permitting **a single** “router” to be **shared** among the recited plurality of remote stations. *Id.* Departing from this plain meaning under the guise of claim construction would be improper. *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383-1384 (Fed. Cir. 2008) (“Courts cannot rewrite claim language.”). Moreover, Procomm does not make any attempt to explain how it would even be possible to use a single shared router to “rout[e]” a signal from the “first” remote station to the “second” remote station and “through a network of remote ... stations.” Indeed, as the claim and the other intrinsic evidence confirms, a separate router is required at the originating remote station, the destination remote station, and any intermediate remote station through which the signal is “rout[ed].” ’100 Pat., claim 15, 9:2-10:5, FIGS. 8-9.

The specification confirms the plain meaning in the claims, in that it consistently uses similar language to convey the same meaning. The only disclosed embodiments in which signals are “rout[ed] ... [over/through] a network of remote wireless communication stations” – as required by the Asserted Claims – are those shown and described for FIGS. 8-9 of the ’100 Patent. *Id.*, claims 15, 19, 9:2-10:5. And, in every such embodiment, the specification illustrates and describes that each remote station (blue) has its own separate (1) remote unit, (2) antenna (pink), and (3) router (red). *See, e.g.*, FIG. 8 (as annotated in §II.A *supra*), 9:2-8 (“**Each** remote station 802, 804, 806, 808, 810, 812 [blue] **includes a** remote unit 814, 816, 818, 820, 822, 824, **an**

antenna 826 [pink], and a router 828 [red].”), 9:43-48 (“[E]ach remote station 802, 804, 806, 808, 810, 812 [blue] includes a router [828, red].”), FIG. 9, 9:65-10:9 (showing and describing each “remote station[] 902, 904, 906, 908, 910, 912” as having its own separate remote unit, antenna, and router, which “provide[s] reduced latencies,” relative to “traditional centralized base station systems,” “by allowing signals to be routed through the local hubs (e.g. remote station 902 and 908) and not requiring transmission to central hub 901.”) The consistency in the phrasing suggests the same meaning. *Phonometrics, Inc. v. N. Telecom*, 133 F.3d 1459, 1465-1466 (Fed. Cir. 1998) (“A word or phrase used consistently throughout a claim should be interpreted consistently.”). The specification’s description of “each remote [wireless communication] station” (blue) having its own separate router (red) that is co-located with it provides additional support for Defendants’ proposal as to the plain meaning of the “**each** remote wireless communication station **having a** co-located, network layer router” claim term.

The prosecution history also clearly confirms “each remote wireless communication station having its own separate co-located, network layer router” is the plain meaning of “each remote wireless communication station having a co-located, network layer router” in so much as the Applicant consistently explained that this is precisely the meaning that it intended to convey through this limitation that it added to the claims in response to prior art rejections.

For example, the claim of the ’100 Patent application that eventually issued as Claim 15 initially recited that “the processed RF signal” – which was “process[ed] ... by a base station at the first remote wireless communication station” – is “rout[ed] ... through a network of remote wireless communication stations to a second remote wireless communication station.” Ex. C (’100 Pat. File History Excerpts) at PROCOMM-A_00002270-2271 (July 10, 2010 Amendment, pp. 5-6 (claim 20)). In response to a prior art rejection (over the Mani reference (U.S. Pub. No.

2002/0191565)), the Applicant argued that, “[a]lthough Mani uses the term ‘routing’”, it “does not disclose a router at each of a plurality of remote antennas in a network as claimed”, where “[t]he term ‘router’ as used in [the claims] and the current specification refers to a network layer router” and is “a router that selectively routs[sic] signals between antennas based on the destination of the signal.” *Id.*, PROCOMM-A_00002273-2275 (7-10-2010 Amendment, pp. 8-10). In response to a Final Rejection in which the Examiner stated that “[A]pplicants argument that ‘Mani does not disclose a router at each of the plurality of remote antennas as claimed’, is irrelevant since the claims in no way recite a *router at each of the plurality of antennas*”, the Applicant amended this claim by adding the disputed claim term and arguing that it distinguished the prior art of record because the prior art did not “disclose a network layer router that is co-located at each of a plurality of remote antennas in a network as claimed.” *Id.* at PROCOMM-A_00002294-2295, 2298-2299 (Sept. 8, 2010 Action, pp. 2-3, 6-7) (original emphasis); PROCOMM-A_00002320, 2322-2324 (Dec. 8, 2010 Amendment at p. 5 (claim 20), pp. 7-9)². In response, the Examiner withdrew the rejection over the Mani reference and rejected the claims based on prior art that did “disclose a network layer router that is co-located at each of a plurality of remote antennas in a network as claimed.” *Id.*; *see also, e.g.*, Ex. C at PROCOMM-A_00002626-2627 (May 9, 2013 Action, pp. 6-7) (rejecting claim 20 as anticipated by U.S. Pub. No. 2009/0129314 (Weniger)).

In sum, the evidence squarely supports the plain meaning of this claim term: “each remote wireless communication station having its own separate co-located, network layer router.”

² Thus, the prosecution history also confirms that the word “co-located” – in the disputed claim term that the Applicant added to overcome rejections over the Mani reference – conveys that, in the “network,” each network layer router is in the same location as its corresponding remote station. *Id.*

By contrast, Procomm obfuscates the parties' dispute and asks the Court not to construe this claim term in order for Procomm to continue to pursue, for infringement purposes, a broader interpretation than its plain meaning, one in which **a single** "network layer router" **is shared by** the recited plurality of remote wireless communication stations in the claimed "network." Procomm's underlying arguments regarding this claim term – that, absent lexicography or a clear and unmistakable disavowal in the specification or the prosecution history, the Court is compelled to give the term "**each** remote wireless communication station **having a** co-located, network layer router" a broader construction than its plain meaning – is simply wrong. Dkt. 48 at 6-7.

There can be no dispute that the words "each remote wireless communication station" in the claim term-at-issue refers to the plurality of remote wireless communication stations in the "network" as recited in the surrounding claim language of claim 15, including at least the "first remote wireless communication station" and the "second remote wireless communication station." Nor can there be any dispute that the claim requires "routing" a signal from the "first" remote station to the "second" remote station and "through a network of remote ... stations." Thus, the plain and ordinary meaning of "**each** remote wireless communication station **having a** co-located, network layer router" is, of the two or more remote stations in the "network," each station has its own separate co-located, network layer router. *Phillips*, 415 F.3d at 1314. As detailed above, the specification and prosecution history simply confirm what the claim plainly says.

Accordingly, it is **Procomm's** single-shared-router-for-all-remote-stations interpretation that abandons the plain meaning of the claim language and violates multiple canons of construction. First, Courts do not rewrite claims. *Helmsderfer*, 527 F.3d at 1383-1384 (rejecting patentee's proposed construction because it would have rewritten the claim term "partially" to capture the broader concept of "totally," contrary to the rule that "[c]ourts cannot rewrite claim

language.”). Second, Courts do not render claim language meaningless. *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1115 (Fed. Cir. 2002) (“An alternative construction would render the first monitoring term meaningless. That construction is therefore improper; this court will not rewrite claims.”). Third, Courts do not permit plaintiffs to use the specification to rewrite the claim or abandon the plain meaning of a claim limitation, as Procomm attempts to do here. *E.g.*, Dkt. 48 at 5-6 (*citing* ’100 Pat., 2:30-33, 2:33-36, 1:43-46, 1:40-42); *GE v. ITC*, 685 F.3d 1034, 1037 (Fed. Cir. 2012) (“[A] possibly broader disclosure accompanied by an explicit narrow claim shows the inventor’s selection of the narrow claim scope.”); *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991) (stating that a patentee cannot use the specification to avoid specific limitations of claims); *Raylon LLC v. Complus Data Innovations*, Nos. 6:09-355, -356, -357, 2011 U.S. Dist. LEXIS 30034, *11-13, *19-20 (E.D. Tex. Mar. 23, 2011) (rejecting plaintiff’s attempt to use the specification to read out an express claim limitation).

For at least the above reasons, Defendants’ proposal as to the plain meaning of this claim term is correct and should be adopted by the Court.

2. “uplink RF sampled data” (’100 Patent, claim 19)

Procomm’s Construction	Defendants’ Construction
Plain and ordinary meaning as informed by the intrinsic evidence, no construction necessary	Plain and ordinary meaning, which is “uplink data that has been converted from RF to digital”

The parties dispute whether the plain and ordinary meaning of “uplink RF sampled data” in the context of the claims and specification of this patent is “uplink data that has been converted from RF to digital.” Defendants contend that it is. Procomm, in contrast, contends that the term’s plain meaning would also include uplink data that has only been partially digitized (uplink data that has been “digitiz[ed] in time” but not yet “digitiz[ed] in amplitude”). Dkt. 48, 7-8 (*citing* Ex. 3 at ProcommEE_000961). Defendants’ proposal is the only one with intrinsic record support.

Starting with the claim language, claim 19 recites, in relevant part:

19. A remote wireless communication station for transmitting high speed wireless data comprising:

a remote unit;

a router co-located with and coupled to the remote unit;

a baseband unit co-located with and coupled to the remote unit; and

an antenna coupled to the remote unit;

wherein the remote unit is configured to send **uplink RF sampled data** to a host unit based on RF signals received, and is configured to route data corresponding to RF signals transmitted and/or received over a network of remote units of which the remote unit is a member;

* * * * *

'100 Pat., claim 19 (disputed claim term in bold, underlining added for additional emphasis).

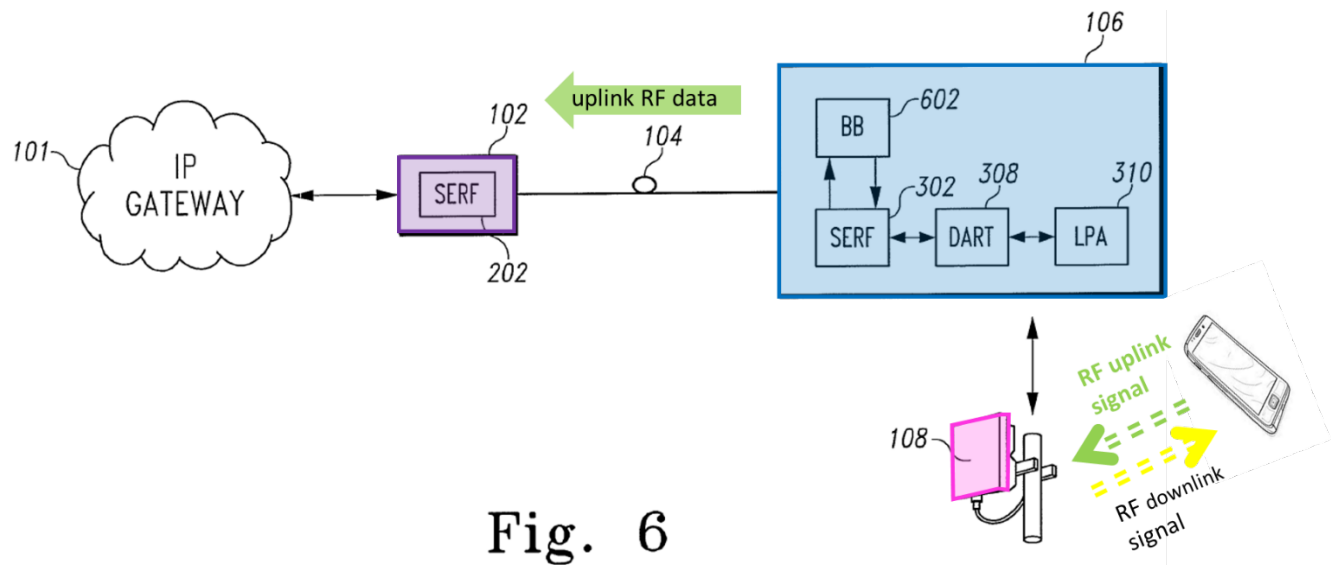
As can be seen above, the disputed term – “uplink RF sampled data” – is what the claimed “remote unit” is “configured to send ... to a host unit based on RF signals received.” *Id.* This “remote unit” has “an antenna coupled to” it, which a POSITA would understand to be the source of the claimed “RF signals received” (*i.e.*, “uplink” RF signals). This “remote unit” must also have “a baseband unit” and “a router” that are “co-located with and coupled to” it. *Id.* In this claimed context, a POSITA would understand that, based on the antenna-received (“uplink”) RF signals, the “remote unit” would be sending “uplink data that has been converted from RF to digital” to the “host unit.” *Id.*; *see also, e.g.*, Ex. D (DEFS-PRCM-EE_0000022) (*Encyclopedia of Electronics and Telecommunication Engineering* (2007) defining “sampling” as “[t]he process of converting an analog signal into a series of digital values.”)

The specification confirms what the claim suggests. For starters, the specification only discloses digital data – “a digital signal for use by [a] SeRF communicator” such as “packetized optical data” (FIGS. 6, 8), “OBSAI,” or “CPRI,” “protocol data” (FIG. 7), “digital sampled RF”

(FIGS. 1, 2) – being sent between a “host unit” and a “remote unit.” Dkt. 48, Ex. 1 (’100 Pat.), 2:42-47 (“Both host [purple] and remote [blue] unit are designed around a serial radio frequency (SeRF) communicator and have a defined interface where different varieties of digital to analog radio frequency transceiver (DART) modules can be connected and disconnected.”), 3:55-4:2, 4:64-67, 5:16-21 and FIGS. 2-3 (“Each DART module 208, 210, 212 [308, 309, 311] ... converts to/from one analog RF to the digital signal used by SeRF communicator [202, 302]”), 6:2-24 (FIG. 4), 7:26-39, 7:51-61 (FIGS. 1, 2), 7:62-8:29 (FIG. 6), 6:37-50 (identifying “OBSAI data” as “ones and zeroes”) and 8:30-8:48 (identifying “OBSAI” and “CPRI” as “digital baseband protocols”) (FIGS. 5, 7).

The only disclosed embodiments in which “a remote wireless communication station” (blue) includes “a remote unit,” with “an antenna [pink] coupled to,” and with “a baseband unit” (BB 602) that is “co-located with and coupled to,” the remote station’s (blue) “remote unit” – as required by claim 19 – are those shown and described in FIG. 6 (annotated below) and FIG. 8 (annotated in §II.A.1, *supra*).³ *Id.*, 7:62-8:29, 7:31-35, 8:66-9:8, 9:19-41. And, in these embodiments, the specification discloses that uplink RF data is sent from the “remote unit 106” (blue) to the “host unit 102” (purple) as “**packetized** optical data,” *i.e.*, data that has been converted from RF to digital and then packetized, based on RF signals received at the remote unit’s antenna 108 (pink):

³ FIG. 8 is also the only disclosed embodiment in which the “remote unit” of the remote station (blue) is disclosed as also having “a router” (red) that is “co-located with and coupled to” it, which – as shown above – is also required by claim 19. ’100 Pat., 8:66-9:8 (identifying both FIG. 6 and FIG. 8 as disclosing “a distributed base station system” in which “a base station” is “plac[ed] ... at a remote wireless communication station,” and disclosing “remote wireless communication station” 808 (blue) includes “a remote unit ... 818” -- that is “configured into a WiMax compatible base station” (orange) – “an antenna 826 [pink], and a router 828 [red].”), 8:9-13 (confirming that “a remote WiMax base station” is an example of a remote unit’s “baseband unit”), 9:43-44; *see* §II.A.1, *supra* (annotated FIG. 8).



Thus, the specification confirms that Defendants’ proposal as to the plain meaning of “uplink RF sampled data” – which “the remote unit is configured to send ... to a host unit based on RF signals received” in claim 19 – is correct. *Phillips*, 415 F.3d at 1315 (“[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.”) (internal quotations omitted).

The prosecution history also confirms that “uplink data that has been converted from RF to digital” is the plain meaning of “uplink RF sampled data” in so much as it is how the Examiner interpreted this claim term. For example, Applicant added this limitation to the claim of the ’100 Patent application that eventually issued as Claim 19 in a February 2013 Amendment. Ex. C at PROCOMM-A_00002581-2582 (Feb. 6, 2013 Amendment, pp. 6-7 (claim 25)). The Examiner rejected this claim as anticipated by both the Sabat reference (U.S. Pat. No. 6,963,552) and the Weniger reference (U.S. Pub. No. 2009/0129314). *Id.* at PROCOMM-A_00002622-2628 (May 9, 2013 Action, pp. 2-8). In its rejections, the Examiner stated that “the remote unit is configured to send uplink RF sampled data to a host unit based on RF signals received” limitation was disclosed by Sabat (“RF signals received at the antenna [at RAN site 50] are **digitized and sent to**

the HUB [35]”) and by Weniger (*citing* FIG. 3 for disclosing that IP **packets** containing a “message from MN1 [are] sent to HA2” by AR1, based on “receiving a wireless signal at AR1 sent by MN1”). *Id.*

In sum, the evidence squarely supports the plain meaning of this claim term: “uplink data that has been converted from RF to digital.”

By contrast, Procomm relies exclusively on extrinsic evidence in arguing that the plain meaning of this claim term should be broadened to include uplink data that has only been partially digitized (uplink data that has been “digitiz[ed] in time” but not yet “digitiz[ed] in amplitude”). Dkt. 48 at 7-8. Procomm’s proposal is improper for many reasons. For example, it ignores that the claim requires that the “uplink RF sampled data” is what the claimed “remote unit” must be “configured to send ... to a host unit based on RF signals received.” *Id.* Procomm identifies zero support – intrinsic or extrinsic – of a “remote unit” being configured to send partially digitized (“digitiz[ed] in time” but not yet “digitiz[ed] in amplitude”) uplink data to a “host unit.” This is exactly why *Phillips* cautions so heavily against the use of inconsistent extrinsic evidence marshalled for the purpose of litigation. *Phillips*, 415 F.3d at 1318-1319.

For at least the above reasons, Defendants’ proposal as to the plain meaning of this claim term is correct and should be adopted by the Court.

B. The '521 Patent

1. “convective opening” ('521 Patent, Claim 14)⁴

Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning as informed by the intrinsic evidence; no construction necessary.	“opening at the end of a structure configured to receive a convective fluid flow”

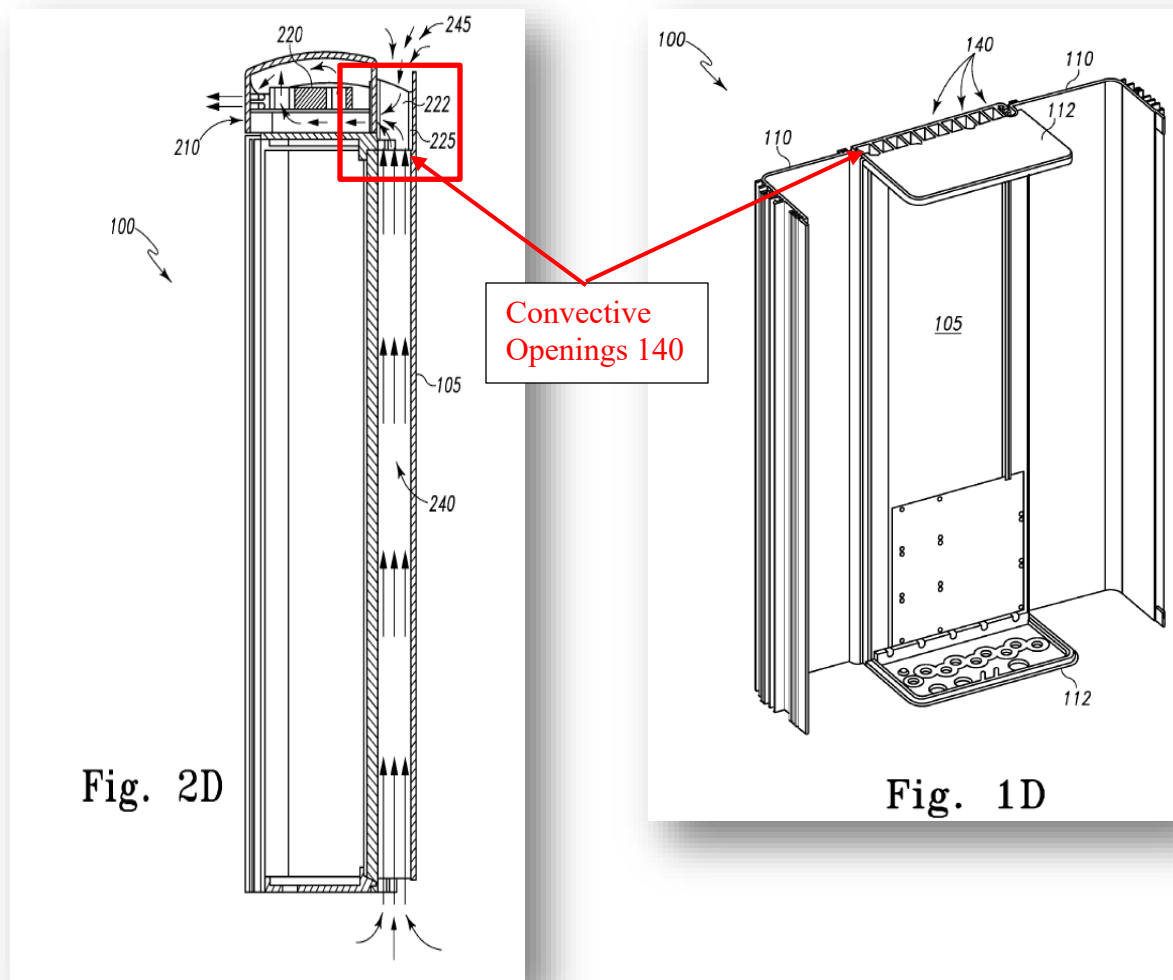
Claim 14 of the '521 Patent requires “one or more convective openings” across which a first airflow is drawn to create a venturi effect that in turn draws a second air flow from the “one or more convective openings.” '521 Patent, claim 14. However, it is not clear from claim 14 what makes these one or more openings “convective.” Defendants’ proposed construction of “convective opening” clarifies this phrase consistent with its use in the claims and specification.

First, there is no dispute that a “convective opening” is an “opening ... configured to receive a convective fluid flow” as proposed by Defendants. As stated by Procomm, the '521 Patent describes the establishment of “a natural convection flow” through convective openings. Dkt. 48 at 8 (*citing* '521 Patent, 5:19-21). This natural convection flow is routinely described as flowing through convective openings. *See, e.g.*, '521 Patent, 5:16-21 (“When fan 220 is not in operation, as illustrated by FIG. 2C, having offset fans creates the free space available above backplane 105 (that is, the absence of obstructions) which allows a natural convection flow (shown generally at 250) to establish itself through convective openings 140.”), 5:23-27 (“For example, in one embodiment when the temperature is less than a predetermined threshold (85 degrees Fahrenheit for example), the fan 220 turns off and natural convection flow through backplane 105 is utilized to remove heat from enclosure 100.”), 5:47-57 (“The heatsink includes one or more

⁴ The parties dispute whether claim 19 is in this case. Claim 19 was not asserted in Procomm’s operative infringement contentions served on March 20, 2024. While Procomm recently moved to amend its contentions to add this claim (Dkt. 46), its motion is opposed (Dkt. 52). If later added, however, Defendants’ proposed construction of this term is also applicable to claim 19.

convective openings which comprise open voids that run the length of the heatsink which promotes a natural convection heat transfer between the heat sink and the air of the environment surrounding the enclosure, some of which will naturally flow through the convective openings. The convective opening allow air from the surrounding environment to convectively flow through the heat sink and transfer thermal energy generated by electronic components housed within the sealed environment to the external environment.”), 6:15-18 (“In one embodiment, so as not to interfere with the natural convention of air through the heatsink when the fan is turned off, the fan is offset so that it is out of the path of the natural convection airflow.”). Thus, Defendants’ construction that a “convective opening” is an “opening ... configured to receive a convective fluid flow” is consistent with the intrinsic evidence. Procomm does not dispute or address this evidence in its opening brief.

Defendants’ construction that a “convective opening” is an “opening at the end of a structure ...” is likewise consistent with the claims and specification. While the ’521 Patent does state that convective openings 140 “comprise open voids that run the length of backplane 105” (’521 Patent, 3:49-50), in the context of the claim 14, the claimed convective opening is at the end of a structure. Claim 14 requires “drawing a first airflow across one or more convective openings of the heatsink, wherein the first airflow does not flow into the one or more convective openings of the heatsink” and “drawing a second airflow of heated air from the one or more convective openings using a Venturi effect created by drawing the first airflow.” ’521 Patent, claim 14 (emphasis added). This is illustrated in, *e.g.*, FIG. 1D and in FIG. 2D showing Venturi chamber 222 on top of enclosure 100 having convective openings 140:



'521 Patent, FIGs. 1D, 2D (both annotated), 4:26-28. Venturi chamber 222 is “formed from a continuous wall 225 connected on each end to fan shroud 215.” *Id.* The '521 Patent describes that “[w]all 225 extends upwards along the circumference of backplane 105 in order to encircle the top openings of convective openings 140 within Venturi chamber 222.” *Id.*, 4:31-34. As can be seen in FIG. 2D above, the Venturi Chamber 222, wall 225, and this encircling occurs at the top, or end, of the structure of enclosure 100. The '521 Patent further describes that wall 225 directs “air[flow 245] coming in from the top of Venturi chamber 222 ... across the heated airflow [240] from the heatsink.” *Id.*, 4:48-50. Airflow 245 is the claimed first airflow. Again, as can be seen above, the first airflow 245 flows over the encircled convective openings 140 at the end of the structure

(enclosure 100). And this “drawing [of] the first airflow [245] across the convective openings [140] of the heatsink will establish a Venturi [e]ffect” that draws the claimed second airflow. *Id.*, 6:3-6. All of these steps occur using components located at the end of the structure and, in particular, at the top of the enclosure 100. Thus, the claimed “convective opening” is an “opening at the end of a structure.”

Procomm makes two arguments in opposition. First, Procomm argues that Defendants’ construction is too narrow because the claimed “convective openings” “may include ‘open voids that run the length of backplane.’” Dkt. 48 at 8-9 (*citing* ’521 Patent, 3:49-50). Second, Procomm argues that the ’521 Patent references “top openings of the convective openings 140” and that had patentee wished to limit the convective openings to these “top openings,” it could have done so in the claims. Dkt. 48 at 9-10 (*citing* ’521 Patent, 4:33-58). Defendants’ construction is proper considering these arguments. That the “convective openings 140” “comprise open voids that run the length of backplane 105” (’521 Patent, 3:48-54) demonstrates that the “convective openings 140” include “opening[s] at the end of a structure” as Defendants propose; otherwise, they would not “run the length.” Further, the portion of the ’521 Patent on which Procomm relies confirms that the first airflow is flowing across the “opening[s] at the end of a structure”—“The air coming in from the top of Venturi chamber 222 is directed across the heated airflow from the heatsink by wall 225 and the draw of fan 222” to produce a Venturi effect, “such as when air flows over the top of an open straw.” ’521 Patent, 3:48-57; *see also id.* FIGS. 1D, 2D (both annotated above). Thus, a “convective opening” in claim 14 is an “opening at the end of a structure configured to receive a convective fluid flow.”

To the extent that it is Procomm’s position that claim 14 would encompass drawing a first airflow drawn along the entire length of a structure to create a venturi effect to draw a second

airflow from that structure—a position it appears to advance to salvage its tortured infringement theory—that position is not supported by the ’521 Patent. There is no description in the ’521 Patent of a “first airflow” that creates a Venturi effect to draw a second airflow at any location anywhere other than at the end of a structure. And, more specifically, there is no description in the ’521 Patent of drawing a first airflow along “the length of backplane 105” in order to draw a second airflow using a Venturi effect. Further, the ’521 Patent does not inform one of ordinary skill how to draw the first airflow 245 along the “length of backplane 105” in a manner so as to draw airflow from the heatsink using a venturi effect, particularly in light of the specific and limited placement of this venturi chamber, fan, and cooling unit at the top of enclosure 100. Thus, the claimed “convective opening” is located at the end of the structure, or at least the portion of the claimed “convective opening” over which the first airflow is drawn is located “at the end of a structure.” The Court should adopt Defendants’ construction because it clarifies the phrase “convective opening” and is consistent with the intrinsic evidence.

2. “a sealed environment” (’521 Patent, claim 14)⁵

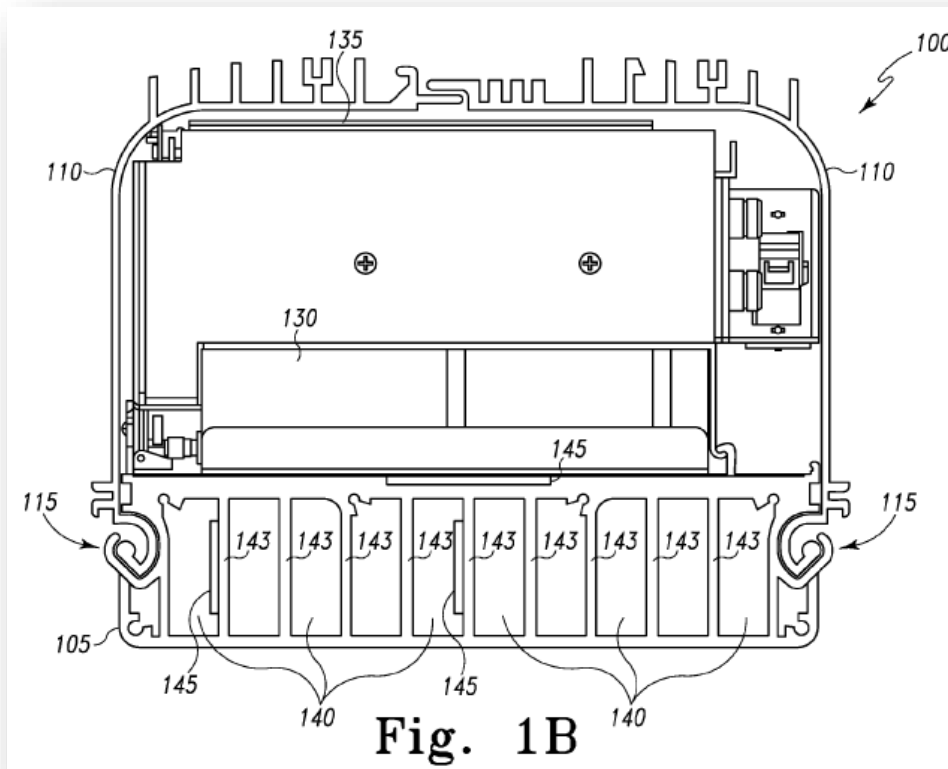
Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
Plain and ordinary meaning as informed by the intrinsic evidence; no construction necessary.	“a closed environment that does not need to be weatherproof”

Claim 14 of the ’521 Patent recites “a sealed environment” of an enclosure for housing electronics. ’521 Patent claims 14. The term “seal” has many and varied commonly understood meanings that could apply to the type of enclosure claimed by the ’521 Patent. For example, “seal” could mean “something that secures,” “a closure that must be broken to be opened and that thus reveals tampering,” “a tight and perfect closure (as against the passage of gas or water),” or “a

⁵ See footnote 4, *supra*.

device to prevent the passage or return of gas or air into a piper or container.” Ex. E, DEFS-PRCM-EE_0000018. As further examples, “seal” could mean “to confirm or make secure by or as if by a seal,” “to fasten with or as if with a seal to prevent tampering,” “to close or make secure against access, leakage, or passage by fastening or coating,” or “to fix in position or close breaks in with a filing.” *Id.* However, it is not clear from claim 14 of the ’521 Patent which, if any, of the above commonly understood definitions of “seal” apply in its recitation of “a sealed environment.” Thus, the phrase “a sealed environment” is not “clear on its face” as Procomm asserts (Dkt. 48 at 10) and, therefore, requires construction such that the scope of “a sealed environment” is understood.

Defendants’ construction of “a sealed environment”—specifically, “a closed environment that does not need to be weatherproof”—clarifies the scope of this phrase and is consistent with its use in the ’521 Patent. The ’521 Patent first describes “a sealed environment” with respect to the embodiment disclosed in FIGS. 1A-1D, *e.g.*:



'521 Patent, FIG. 1B, *see also id.*, FIGS. 1A, 1C-1D. As described, "[e]nclosure 100 comprises a structural backplane 105, two doors 110 that each pivot around respective hinges 115 and two endplates 112 attached respectively to the ends of structural backplane 105." *Id.*; *id.*, 3:5-10. The '521 Patent states that "doors 110 are ... 'L-shaped Doors' which are sealed against backplane 105 by a continuous seal (not shown)," and "hinges 115 are the cam-shaped hinges." *Id.*, 3:21-29. The '521 Patent further states that "when doors 110 are closed, a sealed environment is created." *Id.*, 3:10-11. Indeed, the '521 Patent consistently describes that "a sealed environment" is formed when external components of a structure are closed. *Id.*; *see also id.*, 5:44-46 ("the sealed environment is formed by closing one or more doors of an enclosure, such as enclosure 100 discussed above"), claim 8 ("wherein where the at least two doors are closed, the sealed environment is formed."). Thus, the '521 Patent describes that the closure of doors, in the embodiment shown in FIGS. 1A-1D, results in "a sealed environment." Defendants' construction

that “a sealed environment” is “a closed environment ...” is consistent with this description. Furthermore, the ’521 Patent is clear that the “sealed environment” of this embodiment of FIGS. 1A-1D is not weatherproof. Rather, the ’521 Patent states that “[i]n alternate embodiments, enclosure 100 provides a weatherproof sealed environment.” *Id.*, 3:11-13. Thus, Defendants’ second portion of its construction that “a sealed environment” “... does not need to be weatherproof” is also consistent with the ’521 Patent. Together, Defendants’ construction of “a closed environment that does not need to be weatherproof” is consistent with the specification and provides guidance as to the scope of the phrase “a sealed environment” from among the many possible understandings of the word “seal.”

Nothing in Plaintiff’s Opening Brief demonstrates that the phrase “a sealed environment” does not require construction, or that the Court should not adopt Defendants’ proposed construction. Regarding the need for construction, Plaintiff provides only a conclusory statement that the term is “clear on its face.” Dkt. 48 at 10. However, as shown above, the word “sealed” has various meanings and could be understood to mean that “a sealed environment” must provide, *e.g.*, “a tight and perfect closure (as against the passage of gas or water)” (Ex. E, DEFS-PRCM-EE_0000018) or something similar in that it is weatherproof. But the ’521 Patent states that is an alternative embodiment, that is weatherproof. ’521 Patent, 3:11-13. Thus, the ’521 Patent uses the term “sealed” more broadly, and Defendants’ construction makes clear that this “weatherproof” characteristic is not required.

Plaintiff argues that Defendants’ construction that the sealed environment “does not need to be weatherproof” “attempt[s] to read in a limitation from the specification as a claim requirement.” Dkt. 48 at 11. Plaintiff is mistaken. Defendants’ construction merely clarifies that “a sealed environment” “does not need to be weatherproof.” This construction does not limit the

disputed phrase to either weatherproof or non-weatherproof embodiments but, rather, merely clarifies that the “weatherproof” “alternative” is not required by “a sealed environment.” Thus, Defendants’ proposed construction does not incorporate a limitation from the specification.

While Plaintiff does not expressly reference the “closed environment ...” portion of Defendants’ construction, Plaintiff appears to argue that “a sealed environment” should not be construed to include “a closed environment” because the ’521 Patent states that “sealed environments may be used” other than the sealed environment “formed by closing one or more doors of an enclosure, such as enclosure 100.” Dkt. 48 at 10-11 (*citing* ’521 Patent, 5:46-47); ’521 Patent, 5:44-46. The ’521 Patent describes various structures, including doors and hinges that, when closed, form “a sealed environment.” *See, e.g.*, ’521 Patent, 3:5-29. The ’521 Patent also makes clear that other “electrical enclosures having only a single door, or multiple doors having shaped different from those described above are contemplated as within the scope of the present invention.” *Id.*, 6:27-31. It is these different structural components, *e.g.*, the shapes and numbers of doors, that are the referenced “other sealed environments,” not the act of closing the external portions of a structure to create a sealed environment. Indeed, there is nothing in ’521 Patent that describes how the sealed environment could be created without the closure of external components of an enclosure. Thus, the Court should adopt Defendants’ construction of “a sealed environment.”

IV. CONCLUSION

For the foregoing reasons, Defendants respectfully request that the Court adopt its proposed constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on March 18, 2025, the foregoing was electronically filed in compliance with Local Rule CV-5(a) and served via the Court's electronic filing system on all counsel who have consented to electronic service.

/s/ John R. Gibson
John R. Gibson