

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION**

POWERMAT TECHNOLOGIES, LTD.,

Plaintiff,

v.

ANKER INNOVATIONS LTD.,

Defendant.

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NO. 5:23-CV-00052-RWS

CLAIM CONSTRUCTION ORDER

In this patent case, Powermat Technologies, Ltd., alleges infringement by Anker Innovations Ltd. of claims from seven United States patents relating to wireless charging of devices. Generally, the patents concern inductive power coupling, a way to transfer power from a supply to a load without a conduction path. An oscillating voltage is applied across a primary inductor, creating a corresponding magnetic field that induces an oscillating current in a secondary inductor close to the primary inductor. *See generally* U.S. Patent 8,049,370 at 1:22–36.

The parties present thirteen claim-construction disputes from six of the seven asserted patents. Having considered the parties’ briefing and arguments during a July 10, 2024 hearing, the Court resolves the disputes as follows.

I. BACKGROUND

A. U.S. Patent 8,049,370

The ’370 Patent “relates to systems and methods for controlling inductive power transmission.” ’370 Patent at 1:17–18. With inductive power coupling, energy transfer is most efficient when the primary and secondary coils are aligned and close together. In fact, in “fixed” inductive

couplings like transformers, the coils “are often wound about each other.” *Id.* at 1:40–41. But winding the coils “about each other” inhibits the mobility of the supply and load. *Id.* at 1:41–44.

The patent describes two prior-art systems that provide for alignment of the primary and secondary coils for efficient energy transfer. One system uses male and female connectors, each with a solenoid, attached to the power supply and device. Mating the two connectors aligns the solenoids while providing some freedom of movement, because the connectors are wired to the device and power source. Thus, the device and power source may be somewhat mobile provided the male connector remains plugged into the female connector. But this still limits movement based on the connectors and the length of the wire from the connectors to the device and power source. *See generally id.* at 1:45–64 (describing the teachings of U.S. Patent 7,210,940).

In another prior-art system, a planar charging module has a charging surface on which a device can be placed. The charging module includes an array of primary windings, at least some of which will couple to the secondary winding within the device to be charged. But this system transmits energy over the entire charging surface, which wastes energy and might not be appropriate for some systems. *See generally id.* at 1:65–2:21 (describing the teachings of U.S. Patent 7,164,255 to Hui and noting “that extended base units such as Hui’s charging surface which transmit energy approximately uniformly over the whole area of the unit, are not suitable for use with high energy systems”).

To address the prior art’s deficiencies, the ’370 Patent teaches a system with “a plurality of inductive power outlets connected to a common driver via individual power switches.” ’370 Patent at [57]. As an example, Figure 12 (below) shows a block diagram of a multicoil inductive power outlet with power switches (2120a–d). The outlet includes a “cluster” (2210) of primary inductive coils (2220a–d) connected to a driver (2240) through the power switches, each of which is

protected by a solenoid (2122a–d). The outlet is incorporated into a flat surface (2400) to inductively power electrical devices placed on the surface. A secondary unit (2300), which receives power from the outlet, has a secondary coil (2320) wired to a load (2340). The secondary unit also has a magnet (2130a) for closing a reed switch. The secondary unit is located such that its magnet (2130a) closes the switch (2120a), thereby connecting the primary inductive coil (2220a) to the driver. *See generally* '370 Patent at 13:27–38.

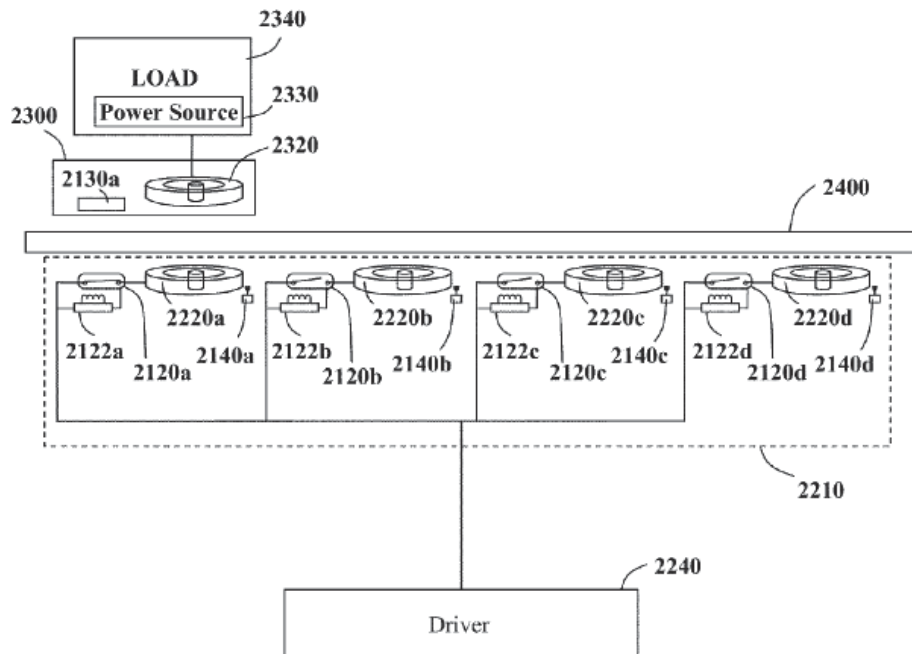


Fig. 12 of the '370 Patent

A secondary detector (2140a) sends an activation signal to the driver to indicate the secondary coil (2320) is coupled to the primary coil (2220a). When the driver receives the activation signal, an oscillating voltage is provided to the cluster of inductors. Although the driver provides the oscillating voltage to the whole cluster, only one of the switches (2120a) is closed, so only the primary coil associated with the closed switch is activated. The other coils (2220b–d) remain inactive. *See* '370 Patent at 13:53–59.

When the secondary unit is moved away from an activated primary inductive coil, the magnet is removed from the associated switch but that switch remains closed. The secondary detector detects that the secondary coil is no longer coupled to the primary coil and sends a deactivation signal to the driver, which stops providing the oscillating voltage and allows the switch to open without sparking. The secondary unit may then be aligned with another coil. *See* '370 Patent at 13:64–14:4.

The patent characterizes using only one driver to control the cluster as an advantage over prior-art systems that have one driver for each primary coil. Using one driver reduces maintenance, allows the device to be embodied into a larger variety of surfaces, and makes repair of the driver easier. *See* '370 Patent at 14:19–30.

The parties present four disputes about the '370 Patent, each of which relates to Claim 1. That claim recites:

1. An inductive power transmission platform comprising:
 - at least one **cluster of primary inductors** configured to couple with at least one secondary inductor wired to an electrical load; and
 - a **common driver** connected to each primary inductor of said cluster via an individual power switch, **said driver for providing an oscillating voltage to at least one of said cluster of primary inductors;**
 - wherein said power switch is operable to disconnect said primary inductor from said common driver only after said driver is deactivated, **such that no current passes through said switch prior to said switch being opened.**

'370 Patent at 17:43–54 (disputed terms and phrases in bold).

B. U.S. Patent 8,283,812

The '812 Patent relates to an inductive power system with moving outlets. '812 Patent at

1:19–20. Specifically, the patent teaches a system with an inductive power outlet configured to be movable behind a surface, such as a wall or floor. The outlet includes a primary inductor that couples with a secondary inductor wired to an electric load. Moreover, the outlet is mounted upon a positioning mechanism so the primary inductor may be moved behind the surface.

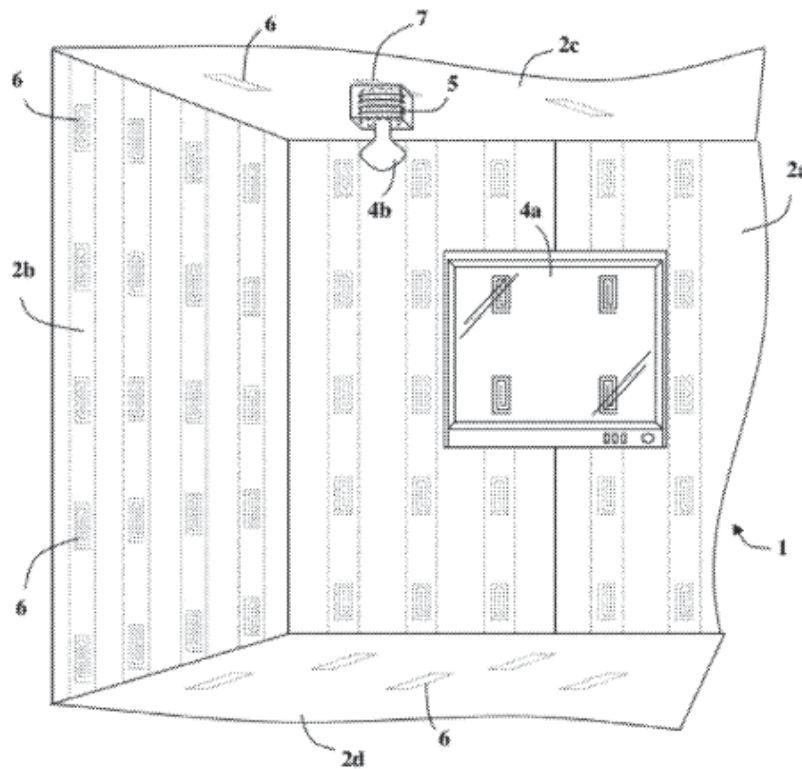


Fig. 1 of the '812 Patent

Figure 1 (above) shows an embodiment of the system incorporated into a workspace (1). The workspace, which is defined by walls (2a, 2b), a ceiling (2c), and a floor (2d), contains a television set (4a) and a light fixture (4b) that draw power from inductive power outlets (6) incorporated into the room surfaces. The outlets have primary inductors (7) wired to main power with controllers that drive the primary coil. The television set and light fixture receive power from the outlets via secondary inductors (5) coupled with the primary inductors. Those secondary inductors may be in inductive receiving units wired to the electrical devices or, alternatively, part of the

electrical devices. *See generally* '812 Patent at 8:39–9:13.

The parties present two disputes from this patent, both of which come from independent Claim 9. That claim recites:

9. A method for preventing an inductive power outlet from transmitting power in the absence of an electric load, said inductive power outlet comprising at least one primary inductor wired to a power supply and further comprising at least one primary detector **in the locality of the primary inductor**, for inductively coupling with a secondary inductor wired to said electric load, said method comprising the steps of:
 - a. said primary inductor transmitting power;
 - b. detecting that said primary inductor is transmitting power;
 - c. detecting that said primary inductor is inductively coupled to said secondary inductor; and
 - d. **disconnecting said primary inductor from said power supply** if no secondary inductor is detected.

'812 Patent at 27:54–67 (disputed phrases in bold). Anker asserts “in the locality of the primary inductor” is an indefinite term of degree, and the parties dispute the scope of “disconnecting.”

C. U.S. Patents 8,626,461, 8,981,598, 9,006,937, and 9,083,204

These patents, two of which are related,¹ concern energy-efficient inductive power transfer. '461 Patent at 1:20–22 (noting the invention “relates to a system and method for monitoring efficiency and controlling power transfer across an inductive power coupling”); '598 Patent at 1:16–20 (“[T]he present invention relates to inductive power transfer systems and methods incorporating activation and termination mechanisms.”); '937 Patent at 1:20–23 (same); '204 Patent at 1:21–23 (“[T]he present invention relates to providing a transmission guard for preventing an inductive

¹ The '937 Patent is a division of the application from which the '598 Patent issued. '937 Patent at [60].

power outlet from transmitting power in the absence of an inductive power receiver.”).

The patents explain that, “[a]t high operating voltages, a large amount of heat may be generated by the system resulting in high power losses as well as damage to heat sensitive components.” ’598 Patent at 3:5–11; *see also* ’937 Patent at 5:13–16. The patents thus purport to address the need “for an energy efficient inductive power transfer system which may incur lower power losses during operation.” ’598 Patent at 3:12–14.

As shown in Figure 1 of the ’598 Patent (below), an inductive power transfer system (100) includes an inductive power outlet (200) configured to power a remote secondary unit (300). The outlet has a primary inductive coil (220) connected to a power supply (240) via a driver (230), which provides an oscillating voltage to the primary coil. The secondary unit has a secondary inductive coil (320) wired to a load (340). The secondary coil is inductively coupled to the primary coil, so the load draws power from the power supply. The secondary unit provides feedback signals to the power outlet using a transmitter (122) that communicates with a receiver (124) in the power outlet using a communication channel (120). *See* ’598 Patent at 9:13–31.

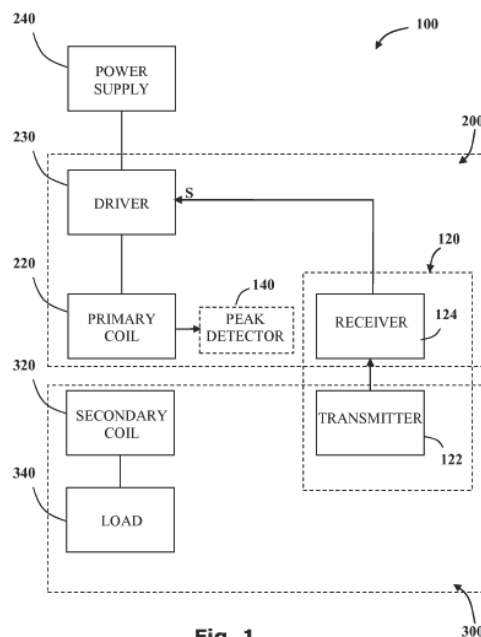


Fig. 1

The parties present four disputes from the '598 Patent, all of which concern Claim 1. That claim recites:

1. An inductive power outlet for transmitting power to at least one inductive power receiver, said inductive power outlet comprising:

at least one primary inductor wired to a power supply, said primary inductor for forming an inductive couple with at least one secondary inductive coil associated with said inductive power receiver; and

at least one driver configured to provide an oscillating voltage across said primary inductor;

wherein said inductive power outlet further comprises

a **trigger sensor** configured to detect a **release signal indicating proximity of a inductive power receiver**; and

a signal detector operable to detect instruction signals from said inductive power receiver concurrently with power transfer;

and wherein

said release signal triggers said inductive power outlet to generate **an activation signal** detectable by said inductive power receiver;

said signal detector is operable to detect **an identification signal** sent by said inductive power receiver to said inductive power outlet and to start said inductive power outlet driving said primary inductor such that said inductive power receiver draws power therefrom for a limited time duration and to stop driving said oscillating voltage if no instruction signal is received during said time duration.

'598 Patent at 22: 63–23:22 (disputed terms in bold).

The parties also dispute the scope of two similar terms from Claim 1 of the '937 Patent, which recites:

1. An inductive power receiver operable to receive power from at least one inductive power outlet and to provide power to an electric load, the inductive power receiver comprising:
 - at least one secondary inductive coil for forming an inductive couple with at least one primary inductive coil associated with the at least one inductive power outlet;
 - a signal transmitter operable to provide **feedback signals** for the inductive power outlet; and
 - a regulator operable to compare power received by the inductive power receiver with reference values and to select **instruction signals** accordingly;
 wherein the inductive power receiver is operable to send a perpetuation signal for the inductive power outlet when the power received lies within a permissible range of values, the perpetuation signal for instructing the inductive power outlet to continue driving the primary inductive coil at the same power level.

'937 Patent at 23:9–25 (disputed terms in bold).

Finally, the parties dispute the meaning of “signal detector,” which appears in Claim 1 of each of the '461 Patent, the '598 Patent, and the '204 Patent.

II. LEGAL STANDARDS

A. Generally

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g., Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007) (Gajarsa, J., concurring in part); *see also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff'g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc).

Claim construction, however, “is not an obligatory exercise in redundancy.” *U.S. Surgical*

Corp. v. Ethicon, Inc., 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, “[c]laim construction is a matter of [resolving] disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims” *Id.* A court need not “repeat or restate every claim term in order to comply with the ruling that claim construction is for the court.” *Id.*

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “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*, 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed. Cir. 2005) (“We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”). But for claim terms with less-apparent meanings, courts consider “those sources available to the

public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Phillips*, 415 F.3d at 1314.

B. Indefiniteness

“[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014). The claims “must be precise enough to afford clear notice of what is claimed” while recognizing that “some modicum of uncertainty” is inherent due to the limitations of language. *Id.* at 908. “Indefiniteness must be proven by clear and convincing evidence.” *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

III. THE LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the skill level of a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In resolving the appropriate level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *Id.* Importantly, “[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Here, Powermat suggests a skilled artisan would have had “an undergraduate Bachelor of Science degree in electrical engineering, computer engineering, computer science, or a related field, with at least two years of experience working in the field of wireless or inductive charging

device design, or testing of such wireless or inductive charging device[s].” Docket No. 47 at 2. Anker, through its expert, says a skilled artisan would have had “at least a Bachelor’s degree in electrical engineering or a similar discipline, along with at least three years of circuit design experience.” Docket No. 47-2 at ¶ 16. Problematically, however, both parties’ levels of skill are unbounded in years of experience, meaning both a person with three years of experience and a person with fifty years of experience would be considered a “skilled artisan.” The Court disagrees and finds the proper level of skill is an undergraduate degree in electrical engineering, computer engineering, computer science, or a related field, with two to three years of experience working in the field of wireless or inductive charging device design or testing.

IV. THE DISPUTED TERMS

A. “cluster of primary inductors” (’370 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“grouping of two or more primary inductors”

Claim 1 of the ’370 Patent recites “[a]n inductive power transmission platform comprising . . . at least one *cluster of primary inductors* configured to couple with at least one secondary inductor wired to an electrical load.” ’370 Patent at 17:43–46 (emphasis added). The parties dispute the meaning of “cluster” and, more specifically, whether there must be some physical or logical relationship between “clustered” inductors.

According to Powermat, a “cluster of primary inductors” simply means “more than one inductor.” Docket No. 47 at 4. It claims the specification is “consistent on this point” and notes Anker’s expert understands a cluster of resistors to mean “multiple resistors.” *Id.* at 4–5. Powermat concludes Anker cannot show lexicography, so the term should be given a “plain and ordinary meaning” construction. *Id.* at 6.

Anker responds that the intrinsic evidence, as well as the ordinary meaning of “cluster,” requires a “cluster of inductors” to be more than just “multiple inductors.” It notes Claim 1’s requirement that a “common driver” must be connected to each inductor and points to Figure 12, which it contends shows an “electrical grouping” of inductors connected to a driver. Docket No. 54 at 4. *See also* Docket No. 47-2 at ¶ 33 (opining a “cluster” can be grouped “spatially, schematically, or electrically”).

The Court agrees with Anker that a “cluster” is not simply “more than one.” As Anker’s expert opined, “cluster” in the abstract means “a group of similar things that are close together.” Docket No. 47-2 ¶ 33. This is consistent with the specification showing the components of a “cluster,” in Figure 12 for example, as electrically related. ’370 Patent at fig.12 (item 2210). And while Powermat accuses Anker of attempting to redefine the term, this is simply the ordinary meaning of “cluster.” The Court therefore construes “cluster of inductors” as “an electrical grouping of two or more primary inductors.”

B. “common driver” (’370 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“a single shared driver”

Somewhat related to the dispute over “cluster of primary inductors,” Claim 1 further requires “a common driver connected to each primary inductor of said cluster via an individual power switch.” ’370 Patent at 17:47–48. Powermat argues “[b]oth ‘common’ and ‘driver’ are well-understood words with which a POSITA would have been familiar.” Docket No. 47 at 7–8 (citing Docket No. 47-2 at ¶¶ 43, 48). It stresses “shared” is nowhere in the specification, and “single” is nothing more than an attempt to rewrite and restrict the claims to a single embodiment. *Id.* at 8. In its view, “nothing in the intrinsic record nor Anker’s expert’s testimony provide a reason to deviate

from the plain and ordinary meaning of ‘common.’ ” *Id.* at 9.

Anker responds that “the entire purpose of the ‘common driver’ is to . . . serv[e] as a ‘single shared driver’ for the ‘cluster of primary inductors.’ ” Docket No. 54 at 6. It accuses Powermat of attempting to expand the limitation to read on multiple drivers. *Id.*

The Court agrees with Anker. In its reply, Powermat emphasizes “the clarity of the term and claim as written,” Docket No. 58 at 2, but it never explains why Anker’s construction is wrong or what it considers the plain meaning of the term. To the contrary, it acknowledges “[a] common driver is a driver that is common to the inductors in the cluster,” Docket No. 71 at 42:23–24, which aligns with the scope of Anker’s construction. Accordingly, the Court construes “common driver” as “a single shared driver.”

C. “said driver for providing an oscillating voltage to at least one of said cluster of primary inductors” (’370 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning. Alternatively “said driver for providing an oscillation voltage to at least one primary inductor of said cluster of primary inductors”	Indefinite

Anker challenges this claim as indefinite based on the second limitation, which recites “a common driver connected to each primary inductor of said cluster via an individual power switch, *said driver for providing an oscillating voltage to at least one of said cluster of primary inductors.*” ’370 Patent at 17:47–50 (emphasis added). Specifically, Anker says this limitation could be interpreted to require the “common driver” to provide a voltage to either (1) “at least one of said *at least one* cluster of primary inductors” or, alternatively, (2) “at least one *primary inductor* of said cluster of primary inductors.” Docket No. 54 at 9. And because the specification does not provide guidance on that question, the term is indefinite.

Powermat makes two arguments in response. First, the claim does not recite “at least one of said clusters,” plural, but rather “at least one of said cluster,” singular. Docket No. 47 at 11. As such, “primary inductor” is implied. Second, if the oscillating voltage is provided *to the cluster*, it is necessarily provided to a particular primary inductor, so there is no difference in scope between the two interpretations. *Id.*

As an initial matter, the Court disagrees with Powermat that there is no difference in scope between the two interpretations. As shown in Figure 12, providing an oscillating voltage to the cluster does not necessarily mean the voltage is also provided to any of the coils composing that cluster. That depends on whether the switches are closed.

Nonetheless, the Court agrees with Powermat that this phrase’s meaning is reasonably clear to a skilled artisan. For one, the wording of the limitation best aligns with Powermat’s interpretation. That is, a skilled artisan could reasonably understand “one of said cluster of primary inductors” as “one of the primary inductors” making up the cluster. But inserting “at least one” into the existing claim language requires more manipulation with a more awkward result. Doing so would make the claim read “providing an oscillating voltage to at least one of said *at least one* cluster of primary inductors.” If that were the intent, why not just say, “providing an oscillating voltage to said at least one cluster of primary inductors”?

Anker counters that Powermat’s position is inconsistent with the first limitation’s recitation of “at least one cluster.” But in patent parlance, “at least one cluster” has the same scope as “a cluster,” so that doesn’t help Anker’s argument. *See Convolv, Inc. v. Compaq Comput. Corp.*, 812 F.3d 1313, 1321 (Fed. Cir. 2016) (noting the “general rule that ‘a’ means ‘one or more’ when following the open-ended term ‘comprising’”). Moreover, the first clause of the limitation recites “a common driver connected *to each primary inductor of said cluster* [singular] via an individual

power switch.” ’370 Patent at 17:47–50. Thus, the focus of the “common driver” limitation, at least so far as this claim is concerned, is the inductors rather than the cluster. The second clause explains the purpose of the common driver and its connections—to “provid[e] an oscillating voltage”—so it’s harder to think the voltage is being provided only to a “cluster” when the sentence before connects the common driver *to the inductors*. Finally, the “wherein” clause reinforces the correctness of Powermat’s construction by addressing the disconnection of the switch, which would be irrelevant if the claim was about the cluster rather than the inductors. In short, a skilled artisan would be reasonably certain this phrase means “said driver for providing an oscillating voltage to at least one primary inductor of said cluster of primary inductors.”

D. “such that no current passes through said switch prior to said switch being opened” (’370 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	Indefinite

This dispute relates to the last limitation of Claim 1, which requires the recited “power switch” to be “operable to disconnect said primary inductor from said common driver only after said driver is deactivated, *such that no current passes through said switch prior to said switch being opened.*” ’370 Patent at 17:51–54 (emphasis added). Anker says a skilled artisan would not understand whether this limitation requires “that (1) no current passes through the switch at any time ‘prior to said switch being opened’ or (2) no current passes through the switch for a specific amount of time ‘prior to said switch being opened.’” Docket No. 54 at 11 (citing Docket No. 47-2 ¶¶ 64–65). And if (2) is the correct interpretation, a skilled artisan would not know how long current needs to stop flowing before the switch is opened to meet this limitation. *Id.* at 12.

Powermat accuses Anker of “fabricating ambiguity.” Docket No. 47 at 12. It says the claim

language tracks the purpose of deactivating the driver, and the first of Anker’s two supposedly reasonable interpretations would render the invention inoperable because no current would *ever* flow to the inductors. *Id.* at 13. As for the second of its interpretations, “[t]he claim need not specify how much time,” because it only matters that there is no current at the switch when it’s opened. Docket No. 58 at 4.

The Court agrees with Powermat. To start, a skilled artisan would not understand this claim language to mean no current *ever* passes through the switch. Not only is that nonsensical in light of the specification, but the first part of the “wherein” clause ties current flow to the state of the switch. That the switch is “operable to disconnect said primary inductor from said common driver *only after said driver is deactivated*” strongly suggests the driver is at some point activated. And to be fair, Anker does not strenuously assert this construction is a reasonable alternative. *See* Docket No. 71 at 24:1–10 (noting both experts’ agreement this interpretation would render the claim inoperable).

Regarding Anker’s assertion that the claim limits the time between the deactivation of the driver and the opening of the switch, nothing in the intrinsic records suggests that’s an issue, nor is such a limitation in the claim. Rather, all that matters is that no current passes through the switch when it is opened, which means there must be no current flowing through the switch *just before* it is opened. The specification confirms as much by explaining

power switch 12 is not used to disconnect the primary coil 22 from the driver 23 while the primary coil 22 is active [T]he driver 23 is deactivated before the power switch 12 is opened. . . . This prevents sparking between the contacts (not shown) of the power switch 12.

’370 Patent at 11:58–67.

Anker’s analysis ignores the first part of the limitation, which is tied to the disputed phrase

by the words “such that.” The disputed phrase therefore explains the result of “disconnect[ing] said primary inductor from said common driver only after said driver is deactivated.” Nothing in that phrase speaks to how much time must pass between deactivating the driver and opening the switch. Instead, it simply requires that no current flows through the switch when it’s opened. A skilled artisan would therefore be reasonably certain the disputed phrase means “such that no current passes through said switch immediately before said switch is opened.”

E. “disconnecting said primary inductor from said power supply” (’812 Patent, Claim 9)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“removing the connection between said primary inductor and said power supply”

The focus of this dispute concerns the last step of the claim, which requires “*disconnecting said primary inductor from said power supply* if no secondary inductor is detected.” ’812 Patent at 27:66–67 (emphasis added). More specifically, the dispute concerns, at least in Anker’s view, whether “deactivating” satisfies the “disconnecting” step. *See* Docket. No. 54 at 13; *see also* Docket No. 71 at 63:25–64:2 (noting Anker’s belief that Powermat is asserting “deactivate” and “disconnect” mean the same thing).

Anker stresses that Powermat’s expert agrees “disconnecting” is not “deactivating,” and that “disconnecting” means “physical removal of a connection [or] severing a connection.” Docket No. 54 at 13 (citing Docket No. 47-5 at 57:23–24). It also contests Powermat’s assertion that Anker’s construction excludes disclosed embodiments. *Id.* at 14.

Powermat doesn’t directly address the fundamental dispute. Instead, as it does with other disputed terms, it says the term need not be construed because it “uses common, well-understood words that a [skilled artisan] would have readily understood.” Docket No. 47 at 15. It also

complains that Anker’s construction would require physically severing the connection, whereas using a controller or short-circuiting the output are other ways of “disconnecting.” *Id.* at 16.

The Court agrees with Anker. Foremost, the ordinary meaning of “deactivating” is different than the ordinary meaning of “disconnecting,” and Powermat offers no evidence suggesting otherwise. Furthermore, Anker’s construction is supported by the intrinsic record, which describes, for example, a circuit breaker positioned between the power supply and primary coil to disconnect the coil from the power supply. *See* ’813 Patent at 23:40–43. Also, although Powermat worries that Anker’s construction would exclude using solid-state devices like a multiplexer or controller to “disconnect,” Anker denies that. Docket No. 54 at 15 (implying it agrees with Dr. Mercier’s testimony at Docket No. 47-5 at 59:17–61:20, 91:11–16).

As for whether short-circuiting the load equates to a “disconnection,” Powermat’s evidence on that is questionable. Its expert opines that “[t]he driver’s output itself could also be . . . short-circuited to *effectively* disconnect the driving signals from the primary coil.” Docket No. 47-4 at ¶ 83 (emphasis added). That choice of language suggests that, although it would bring about the same *result*, short-circuiting the load is not the same as “disconnecting” the load. Otherwise, why use the word “effectively”?

Dr. Mercier’s deposition doesn’t clarify that point. Asked whether “short-circuiting a driver’s output [is] the same as disconnecting a driver’s output?” Dr. Mercier responded, “It depends on the context.” Docket No. 47-5 at 59:20–22. He testified more specifically that “[i]t depends on the nature of what it is driving on whether or not short-circuiting is *equivalent* to disconnecting.” *Id.* at 60:1–3 (emphasis added). After some thought he continued, “I would say if you short-circuit the driver’s output, you are no longer providing a connection that can contain signals or information to whatever *it is connected to*. And so *in a sense*, you are disconnecting the output

to whatever it is driving” *Id.* at 60:23–1:3 (emphasis added). But the question is not whether “short-circuiting” and “disconnecting” can achieve the same result, but whether a skilled artisan would understand “short-circuiting” as one type of “disconnecting.” The Court sees no evidence, intrinsic or otherwise, that a skilled artisan would have that understanding of the term.

In the end, Powermat does not provide persuasive evidence that “deactivating” or “short-circuiting” falls within the scope of “disconnecting.” Left only with Anker’s interpretation of what the term means, the Court adopts Anker’s construction of “removing the connection between said primary inductor and said power supply.”

F. “one primary detector in the locality of the primary inductor” (’812 Patent, Claim 9)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	Indefinite

Claim 9’s preamble recites an “inductive power outlet comprising . . . at least one primary detector *in the locality of* the primary inductor.” ’812 Patent at 27:56–58 (emphasis added). Anker alleges “in the locality of” renders the phrase, and therefore this claim, indefinite.

According to Powermat, “in the locality of” means “sufficiently close to the primary coil so that the primary detector can detect whether the primary coil is activated.” Docket No. 47 at 18 (citing Docket No. 47-4 at ¶ 88). It points to the specification’s disclosure of different sensor types that operate in different ways and require different minimum distances. *Id.* Finally, Powermat also notes the prosecution history, which it says defines “in the locality of” to mean “the location of the power that is detected by the primary detector.” *Id.* at 18–19 (citing Docket No. 47-6 at 10); *see also* Docket No. 71 at 53:21–22, 54:19–20 (arguing the bounds of the claim are “defined in the prosecution history”).

Anker focuses on Powermat's argument that this phrase simply means the "primary detector" is "sufficiently close to the primary coil so that the primary detector can detect whether the primary coil is activated." Docket No. 54 at 16. Under that interpretation, says Anker, a skilled artisan would have to go outside the intrinsic record to determine whether a detector is "in the locality of" an inductor, because it depends on the type of detector. *Id.* And if a skilled artisan must go outside the record to determine the bounds of the claim, the term is indefinite.

The Court agrees with Anker. "In the locality of" means something like "in the neighborhood of" or "near." Powermat, however, turns that ordinary usage into something tied to function, arguing a skilled artisan would understand it to mean the detector is close enough to work. Under that interpretation, however, whether a detector is "in the locality of" the inductor depends on something other than a spatial relationship, contrary to the phrase's normal meaning. A better phrase would be something like "in range of"—for example, "at least one primary detector *in range of* the primary inductor."

As for whether the applicants defined the term during prosecution, the Court does not see clear and unmistakable lexicography. *See Hill-Rom Servs. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (noting "[t]he standards for finding lexicography . . . are exacting" and requires a patentee to clearly set forth a redefinition of the disputed claim term). After adding "in the locality of" to the claims, the applicants remarked that the amended claims "each refer to the location of the primary detector, and by extension, the location of the power that is detected by the primary detector." Docket No. 47-6 at 10. That simply says the location of the detected power is also the location of the detector, which makes sense. But it does not clearly and unmistakably equate "in the locality of" with what is effectively Powermat's construction of "in range." The Court therefore holds this term is an indefinite term of degree.

G. “a release signal” / “instruction signals” / “an activation signal” / “an identification signal” (’598 Patent, Claims 1, 2, 6, 9)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	Each signal is independent and separately identifiable from each other signal

Claim 1 of the ’598 Patent is directed to an “inductive power outlet” that comprises:

a trigger sensor configured to detect a **release signal** indicating proximity of a[n] inductive power receiver; and

a signal detector operable to detect **instruction signals** from said inductive power receiver concurrently with power transfer;

. . . wherein

said **release signal** triggers said inductive power outlet to generate an **activation signal** detectable by said inductive power receiver;

said signal detector is operable to detect an **identification signal** sent by said inductive power receiver to said inductive power outlet and to start said inductive power outlet driving said primary inductor such that said inductive power receiver draws power therefrom for a limited time duration and to stop driving said oscillating voltage if no **instruction signal** is received during said time duration.

’598 Patent at 20:63–21:22 (emphasis added); *see also id.* at 23:55–24:10 (reciting similar limitations in Claim 6). Anker seeks a construction requiring that each of the four signals at issue must be different signals. Docket No. 54 at 19. More precisely, Anker asks the Court to hold that the signals are “distinct,” such that a signal of an accused instrumentality that meets one of the signal requirements cannot also satisfy the other signal requirements. *Id.* (quoting *Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (noting that where a claim lists elements separately, that implies those elements are distinct components of the invention)). It

notes, for example, that Claim 1 recites a “release signal” that triggers the generation of the “activation signal,” so these two signals cannot be the same signal. *Id.*

Anker seeks too restrictive of a holding given the claims’ structure. Critically, the claims do not recite the signals as positive limitations of the claims, but rather as signal types to characterize the structure of the “trigger sensor” and “signal detector.” Thus, literal infringement does not require the presence of a “release signal” or an “instruction signal,” but only structure “operable to detect” or “configured to detect” these signal types.

Anker seems most concerned about overlap between “identification signal” and “instruction signal.” Although it agrees an “identification signal” is a type of “instruction signal,” to the extent that a claim recites both, it says construing the former the same as the latter “would be tantamount to making the terms redundant.” Docket No. 54 at 19. Anker’s position would be stronger if, for example, the claim recited separate steps of “receiving an instruction signal” and “receiving an identification signal.” In that case, *Becton*’s reasoning would apply to presumptively require the receipt of two different signals, even if an “identification signal” could also be considered an “instruction signal.” But that is not how these claims are structured, so the Court rejects Anker’s request.

H. “a release signal indicating proximity of a inductive power supply” (’598 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning.	“a signal conveying that an inductive power receiver may have been placed within transmission range”

Claim 1 requires “a trigger sensor configured to detect a release signal indicating proximity of a[n] inductive power receiver.” ’598 Patent at 23:6–7. Anker points to the specification and its expert’s declaration for support of its construction. Docket No. 54 at 20 (citing ’598 Patent at

19:23–35; Docket No. 47-2 at ¶¶ 92, 96). Powermat counters that the specification “uses virtually none” of the language from Anker’s construction, and that no construction is necessary. Docket No. 47 at 23–24. It also suggests Anker’s reliance on the preferred embodiment to support its construction is somehow erroneous. *Id.* at 24.

The Court struggles to see the dispute. Powermat says the claim language clearly articulates the purpose of the release signal, but fails to say why Anker’s construction is wrong. Nor does Powermat identify any difference in scope between the parties’ respective positions. The Court therefore adopts Anker’s construction of “a signal conveying that an inductive power receiver may have been placed within transmission range.”

I. “trigger sensor” (’598 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“a device used to sense that a signal has changed”

The parties dispute whether the “trigger sensor” must detect a *change* in a signal, or whether the meaning of the term is broader. Arguing for the former, Anker says this term is “very application specific,” and that a skilled artisan “would have understood that for a signal to indicate the proximity of an inductive power receiver, the signal has to change.” Docket No. 54 at 21–22 (quoting Docket No. 54-1 at 117:19). It also offers a number of technical dictionary definitions it says support its construction. *Id.* at 23 (citing *sensor*, Chambers Dictionary of Sci. & Tech., Docket No. 54-4 at 1077 (“general name for detecting device used to locate (or detect) the presence of matter (or energy, eg sound, light, radio or radar waves)”; *sensor*, Newton’s Telecom Dictionary (24th ed. 2008), Docket No. 54-5 at 827 (“A device that responds to a physical stimulus and produces an electronic signal.”)). Further, says Anker, a “trigger sensor” is different from a regular

“sensor” because it senses “triggers.” Docket No. 71 at 9–11.

Powermat replies that neither the specification nor the claims describe a trigger sensor as a device that detects “change.” Docket No. 58 at 8. It accuses Anker of cherry-picking words from various dictionaries and its expert’s testimony. *Id.* It also accuses Anker of misapplying the law by concluding a “plain and ordinary meaning” construction “cannot encapsulate all . . . context-specific attributes disclosed in the ’598 Patent.” *Id.*

Powermat’s position is better. The specification and claims suggest the “trigger sensor” is a sensor that “triggers” some output or action based on sensed input. For example, Claim 1 recites that the “trigger sensor is configured to detect a release signal,” and the “release signal *triggers* said inductive power outlet to generate an activation signal.” ’598 Patent at 23:7–8, 23:12–14 (emphasis added); *see also id.* at 18:7–11 (explaining “[t]he trigger sensor 1440 is configured to detect a release signal [and] may be further configured to disable the circuit breaker 1420 when the release signal is detected”). Thus, the “sensor” part of the term seems to have no special meaning, and none of Anker’s definitions limit the ordinary meaning of “sensor” to something that only detects a *change* in a signal. Rather, a sensor is simply “[a] device that responds to a physical stimulus and produces an electronic signal,” Newton’s Telecom Dictionary (24th ed. 2008), Docket No. 54-5 at 827, and that “physical stimulus” may or may not be some sort of signal change. Accordingly, the Court rejects Anker’s position that a “trigger sensor” is limited to detecting a “change” and will give this term a “plain and ordinary meaning” construction.

J. “an activation signal” (’598 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“a signal conveying that the inductive power receiver should switch to transmission mode”

Claim 1 requires that a “release signal triggers said inductive power outlet to generate an *activation signal* detectable by said inductive power receiver.” ’598 Patent at 23:12–14 (emphasis added). In support of its construction, Anker points to the specification’s teaching that the system may switch to transmission mode when an activation signal is received. Docket No. 54 at 24 (citing ’598 Patent at 16:50–51). Powermat focuses on the claim language, which it says requires only that an “activation signal” “is (1) triggered by the release signal, (2) generated by the power outlet, and (3) detectable by the power receiver.” Docket No. 47 at 28. In its view, Anker’s approach wrongly injects limitations from the specification into the claims. *Id.*

Essentially, the parties dispute what effect to give “activation,” and the Court generally sides with Powermat. Anker’s position focuses on the purpose of a system that includes both an inductive power outlet and an inductive power receiver. Claim 1, however, is directed only to the structure of the outlet, and not the receiver. The control output of the outlet is a signal, but how that signal is interpreted depends on the receiver. From the perspective of the outlet, however, it’s simply a signal, like a voltage. *See, e.g.*, ’598 Patent at 23:48–50 (requiring the activation signal of Claim 1 to include “an induced voltage across said secondary inductive coil”).

That said, the parties agree that the “activation signal” activates something, Docket No. 71 at 79:8–10 (Powermat acknowledging “that activating something connotes starting something or turning something on”). Given that, the Court construes this term as “a signal conveying an instruction to activate something.”

K. “feedback signals” / “instruction signals” (’937 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	Each signal is independent and separately identifiable from each other signal.

Claim 1 requires both “a signal transmitter operable to provide *feedback signals* for the inductive power outlet” and “a regulator operable to compare power received by the inductive power receiver with reference values and to select *instruction signals* accordingly.” ’937 Patent at 23:15–19. Anker’s argument for this term tracks its argument for the prior “signal” terms where it asserted two different signals cannot satisfy the same “signal” requirement of the claims. Docket No. 54 at 26; *see also* Part IV.G. *supra*. Powermat’s position also tracks its previous arguments, although it further asserts “a ‘feedback signal,’ as used in the patent, is a type of ‘instruction signal.’ ” Docket No. 47 at 30–31.

There are two disputes. As to the first—whether the signals are independent and separately identifiable—the Court reaches the same conclusion as it did for the other “signal” terms for the same reasons. That is, the claims do not require the presence of these signals to infringe. Rather, they require certain structure operable to detect these signal *types*. Thus, the recited “feedback signals” and “instructions signals” simply limit the structure of the “signal generator” and “regulator,” respectively. *See* Part IV.G. *supra*.

That said, the Court disagrees with Powermat’s assertion that a “feedback signal” is a type of “instruction signal.” To support that assertion, Powermat points to the specification’s explanation that “feedback signals generally carry data pertaining to the operational parameters of the electric load,” Docket No. 47 at 31 (quoting ’937 Patent at 6:49–51), and “simple feedback signals may be provided indicating whether more or less power is required,” *id.* at 11:63–64; *see also id.* at 11:50–59. Powermat, however, interprets that language to mean that signals providing a status—e.g., “whether more or less power is required”—operate as an instruction. That wrongly conflates the two signal types. While the usual consequence of receiving a feedback signal is to take some action—e.g., send an instruction signal—those are separate things.

To summarize, the Court rejects Anker’s construction, but it also rejects that a “feedback signal” is a type of “instruction signal.”² Subject to those constraints, the Court gives this term a “plain and ordinary meaning” construction.

L. “feedback signals” (’937 Patent, Claims 1, 8)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“signals that carry data pertaining to the operational parameters of the electric load”

Claim 1 requires “a signal transmitter operable to provide feedback signals for the inductive power outlet.” ’937 Patent at 23:15–16. Similarly, Claim 8 recites “a signal receiver for receiving feedback signals from the inductive power receiver.” *Id.* at 23:55–56.

According to Powermat, Anker’s construction “improperly restricts the claims to a single or preferred embodiment” by requiring that the signals relate “to the operational parameters of the load.” Instead, says Powermat, “‘feedback signals’ typically refers to signals that provide ‘feedback,’ which is information pertaining to the operation of something.” Docket No. 47 at 32–33 (citing Docket No. 47-2 at ¶¶ 110–11; Docket No. 47-3 at 129:10–130:10).

In response, Anker calls this term “the type of ‘terse language’ courts routinely elaborate upon to assist in properly understanding the meaning and scope of the term,” and says Powermat’s opening brief “is devoid of any analysis of what the term could otherwise mean.” Docket No. 54 at 26–27. It points to its expert’s opinion that, “in the context of ‘control systems’ such as those described by the ’937 Patent, feedback signals are ‘used to control the operation of a system by using feedback from the output of the system as an input into the system.’” *Id.* at 28 (quoting Docket

² That does not mean the same set of electrons could not operate as both a “feedback signal” and an “instruction signal” depending on the circuit configuration, but only that a “feedback signal” has one purpose and an “instruction signal” has another.

No. 47-2 at ¶ 111).

Anker’s construction is too narrow because nothing about the ordinary meaning of “feedback signals” limits that term to the specific data those signals convey. Although claims are read in light of the specification, Anker’s position imports limitations from the specification into the claims under the guise of elaborating “terse language,” despite that the “terse language” has an ordinary meaning. The Court therefore construes “feedback signals” as “signals that provide information pertaining to the operation of something.” *See* Docket No. 47-2 at ¶¶ 110–11).

M. “signal detector” (’461 Patent, Claims 13, 15; ’598 Patent, Claim 1; ’204 Patent, Claim 1)

Powermat’s Construction	Anker’s Construction
Plain and ordinary meaning	“a device used to detect at least one signal”

In this final dispute, Powermat views Anker’s construction as “narrow[ing] the claim in a manner inconsistent with the specification and a POSITA’s interpretation.” Docket No. 47 at 27; *see also id.* at 36 (calling Anker’s construction “both unnecessary and improper”). Its main complaint is adding “device” into the construction, which it says suggests the claim requires “a physical device dedicated to the sole task of detecting signals.” *Id.* at 26; *see also id.* at 27 (arguing, with respect to the ’598 Patent, “Anker’s construction potentially excludes software and hardware/software solutions that are expressly contemplated by the patent.”); *id.* at 35 (making similar arguments for the term in the claims of ’204 Patent); *id.* at 36 (making the same argument for the ’461 Patent).

Anker contests this term has an ordinary and customary meaning, but proffers various technical dictionary definitions for “detector” and “detection.” Docket No. 54 at 32 (citing *detector*, Telecom Dictionary (2007), Docket No. 54-7 at 165 (“A device that senses the presence or level

of a signal. A detector senses the presence of electromagnetic or optical energy and creates an electrical signal that represents the level of the sampled signal.”); *detector*, Wiley Elec. & Elecs. Eng’g Dictionary (2004) (“An instrument or device which serves for detection”); *see also detection*, Wiley Elec. & Elecs. Eng’g Dictionary (2004) (“The process of sensing a signal or other phenomenon. For example, the detection of radioactivity, electromagnetic waves, or of a change in a quantity being monitored.”)). Regarding Powermat’s main complaint, Anker acknowledges “a ‘device’ can certainly include, and often includes, a combination of hardware and software.” Docket No. 54 at 30.

Here, Powermat only objects that Anker’s construction would potentially exclude software and hardware/software solutions. Based on dictionary definitions proffered by Anker, in combination with its acknowledgement that a “signal detector” can be a combination of hardware and software, the Court construes this term as “a device, which can be a combination of hardware and software, used to detect at least one signal.”

V. CONCLUSION

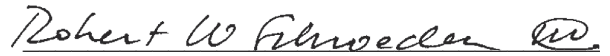
Disputed Term	The Court’s Construction
“cluster of primary inductors” (’370 Patent, Claim 1)	“an electrical grouping of two or more primary inductors”
“common driver” (’370 Patent, Claim 1)	“a single shared driver”
“said driver for providing an oscillating voltage to at least one of said cluster of primary inductors” (’370 Patent, Claim 1)	“said driver for providing an oscillating voltage to at least one primary inductor of said cluster of primary inductors”

“such that no current passes through said switch prior to said switch being opened” (’370 Patent, Claim 1)	“such that no current passes through said switch immediately before said switch is opened”
“disconnecting said primary inductor from said power supply” (’812 Patent, Claim 9)	“removing the connection between said primary inductor and said power supply”
“one primary detector in the locality of primary detectors” (’812 Patent, Claim 9)	Indefinite
“a release signal” / “instruction signals” / “an activation signal” / “an identification signal” (’598 Patent, Claims 1, 2, 6, 9)	Plain and ordinary meaning
“a release signal indicating proximity of a inductive power supply” (’598 Patent, Claim 1)	“a signal conveying that an inductive power receiver may have been placed within transmission range”
“trigger sensor” (’598 Patent, Claim 1)	Plain and ordinary meaning
“an activation signal” (’598 Patent, Claim 1)	“a signal conveying an instruction to activate something”
“feedback signals” / “instruction signals” (’937 Patent, Claim 1)	Plain and ordinary meaning
“feedback signals” (’937 Patent, Claims 1, 8)	“signals that provide information pertaining to the operation of something”
“signal detector” (’461 Patent, Claims 13, 15; ’598 Patent, Claim 1; ’204 Patent, Claim 1)	“a device, which can be a combination of hardware and software, used to detect at least one signal”

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party’s claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted

by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court's reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

So ORDERED and SIGNED this 24th day of September, 2024.


ROBERT W. SCHROEDER III
UNITED STATES DISTRICT JUDGE