IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FAIRCHILD SEMICONDUCTOR CORPORATION, and SYSTEM GENERAL CORPORATION,	:	
Plaintiffs,	:	
v.	:	C.A. No. 12-540-LPS
POWER INTEGRATIONS, INC.,	:	
Defendant.	:	

John G. Day, Esq., Lauren E. Maguire, Esq., Andrew C. Mayo, Esq., ASHBY & GEDDES, Wilmington, DE.

Blair M. Jacobs, Esq., Christina A. Ondrick, Esq., Rose S. Whelan, Esq., McDERMOTT WILL & EMERY LLP, Washington, DC.

Terrence P. McMahon, Esq., McDERMOTT WILL & EMERY LLP, Menlo Park, CA.

Leigh J. Martinson, Esq., McDERMOTT WILL & EMERY LLP, Boston, MA.

Attorneys for Plaintiffs Fairchild Semiconductor Corporation, and System General Corporation.

William J. Marsden, Jr., Esq., Joseph B. Warden, Esq., FISH & RICHARDSON, P.C., Wilmington, DE.

Frank E. Scherkenbach, Esq., FISH & RICHARDSON, P.C., Boston, MA.

Howard G. Pollack, Esq., Michael R. Hatley, Esq., Enrique Duarte, Esq., FISH & RICHARDSON, P.C., Redwood City, CA.

Attorneys for Defendant Power Integrations, Inc.

MEMORANDUM OPINION

August 28, 2013
Wilmington, Delaware

STARK, U.S. District Judge:

Plaintiffs Fairchild Semiconductor Corporation and System General Corporation (collectively, "Plaintiffs" or "Fairchild") filed this patent infringement action against Defendant Power Integrations, Inc. ("Defendant" or "Power") on May 1, 2012, asserting three U.S. Patents: (1) U.S. Pat. No. 7,259,972 ("the '972 patent"); (2) U.S. Pat. No. 7,525,259 ("the '259 patent"); and (3) U.S. Pat. No. 7,286,123 ("the '123 patent"). On June 21, 2012, Power counterclaimed for infringement of five U.S. Patents: (1) U.S. Pat. No. 6,229,366 ("the '366 patent"); (2) U.S. Pat. No. 7,995,359 ("the '359 patent"); (3) U.S. Pat. No. 7,952,895 ("the '895 patent"); (4) U.S. Pat. No. 7,876,587 ("the '587 patent"); and (5) U.S. Pat. No. 8,115,457 ("the '457 patent"). The '972, '259, '366, '359, '895, '587, and '457 patents relate to aspects of switching power supply regulators. The '123 patent relates to driver circuits for light emitting diodes.

Presently before the Court is the issue of claim construction of various disputed terms of the eight patents-in-suit. The parties completed claim construction briefing on May 24, 2013. (D.I. 59, 60, 69, 72) The Court conducted a *Markman* hearing on July 15, 2013. (*See* D.I. 86) (hereinafter "Tr.")

I. LEGAL STANDARDS

"It is a bedrock principle of patent law that the 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) (internal quotation marks omitted). Construing the claims of a patent presents a question of law. *See Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977-78 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370, 388-90 (1996). "[T]here is no magic formula or catechism for conducting claim construction." *Phillips*, 415 F.3d at 1324. Instead, the court is free to attach

the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[T]he words of a claim are generally given their ordinary and customary meaning . . . [which 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." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Id.* at 1321 (internal quotation marks omitted). The patent 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." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

While "the claims themselves provide substantial guidance as to the meaning of particular claim terms," the context of the surrounding words of the claim also must be considered. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent . . . ." *Id.* (internal citations omitted).

It is likewise true that "[d]ifferences among claims can also be a useful guide . . . . For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

It is also possible that "the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Phillips*, 415 F.3d at 1316. It bears emphasis that "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (internal quotation marks omitted), *aff'd*, 481 F.3d 1371 (Fed. Cir. 2007).

In addition to the specification, a court "should also consider the patent's prosecution history, if it is in evidence." *Markman*, 52 F.3d at 980. The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent." *Phillips*, 415 F.3d at 1317. "[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

A court also may rely on "extrinsic evidence," which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. For instance, technical dictionaries can assist the court in determining the meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science and technology." *Phillips*, 415 F.3d at 1318. In addition, expert testimony can be useful "to

ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of ordinary skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Id.* Nonetheless, courts must not lose sight of the fact that "expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence." *Id.* Overall, while extrinsic evidence "may be useful" to the court, it is "less reliable" than intrinsic evidence, and its consideration "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Id.* at 1318-19.

Finally, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GmbH v. ITC*, 505 F.3d 1351, 1358 (Fed. Cir. 2007).

In this case, the Defendant contends that several disputed phrases are written in means-plus-function format. Under 35 U.S.C. § 112, ¶ 6:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Courts follow a two-step process when construing "means-plus-function" claim terms. *See Chi. Bd. Options Exch., Inc. v. Int'l Sec. Exch., LLC*, 677 F.3d 1361, 1367 (Fed. Cir. 2012). First, the Court must identify the particular claimed function. *See id.* Second, the Court must look to the specification and identify the corresponding structure for that function. *See id.* For the second

step, "structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *B. Braun Medical v. Abbott Lab.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997).

II. CONSTRUCTION OF DISPUTED TERMS

The parties seek construction of seventeen disputed terms.[1] The Court's construction for each disputed term is set forth below.

A. U.S. Pat. No. 7,259,972

1. "a second feedback signal associated with a current control loop" [claims 1 and 15]

Plaintiffs' Proposed Construction	No construction necessary because the Court has already provided prior claim construction regarding this phrase: "a second feedback signal, distinct from the first feedback signal, associated with a current control loop"
Defendant's Proposed Construction	"a second feedback signal, distinct from the first feedback signal, associated with a current control loop wherein the current control loop does not use a current limit comparator"
Court's Construction	"a second feedback signal, distinct from the first feedback signal, associated with a current control loop wherein the current control loop does not use a current limit comparator"

The Court construed this phrase in a previous litigation between the same parties. (*See* CA. No. 08-309-LPS D.I. 212, 337) Plaintiffs propose that the Court simply adopt its previous construction. (D.I. 60 at 4) Defendant, on the other hand, contends that the claim requires further construction to account for disclaimers made by Plaintiffs during the subsequent reexamination of the '972 patent. (D.I. 59 at 12) The Court agrees with Defendant.

---

[1]The parties have also agreed on the meaning of certain claim terms. (Tr. at 198) The Court will adopt the parties' proposed constructions for these terms.

"[S]tatements made by a patent applicant during prosecution to distinguish a claimed invention over prior art may serve to narrow the scope of a claim." *Spectrum Int'l v. Sterilite Corp.*, 164 F.3d 1372, 1378 (Fed. Cir. 1998). During reexamination, Plaintiffs sought to overcome a rejection over the prior art by arguing that the term "'second feedback signal' is not properly interpreted to include the conventional current limit circuit . . . ." (D.I. 51 Ex. E-1) Plaintiffs also explained in the reexamination that the output of the current limit circuit "is unrelated to the claimed second feedback signal associated with a current control loop." (*Id.*) (citing '972 patent at col. 5, ll. 44-49) Given these clear and unambiguous statements, the Court concludes that the disclaimer language integrated into Defendant's proposed construction is appropriate. *See Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323-25 (Fed. Cir. 2003).

2. "generates the first feedback signal by sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer" [claim 6] and "generating the first feedback signal by sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer" [claim 18]

Plaintiffs' Proposed Construction	No construction necessary because the Court has already provided prior claim construction regarding this phrase: "sampling a voltage from the auxiliary winding of the transformer when the transformer is discharging"
Defendant's Proposed Construction	"the first feedback signal is generated by 'measuring and holding a voltage from the auxiliary winding of the transformer at the end of the discharge time'"
Court's Construction	"sampling a voltage from the auxiliary winding of the transformer when the transformer is discharging"

This is another phrase that the Court has previously construed. (*See* CA. No. 08-309-LPS D.I. 212, 337) Plaintiffs again propose that the Court adopt its previous construction. Defendant proposes: (1) to construe the word "sampling" to mean "measuring and holding;" and (2) to

clarify that sampling can only occur "at the end of the discharge time." The Court agrees with Plaintiffs that the Court's prior construction should be adopted again, without modification.

Defendant contends that the '972 patent specification requires the term "sampling" to be limited to "measuring and holding." But the portions of the specification cited by Defendant relate to a preferred embodiment. Defendant identifies no adequate "words or expressions of manifest exclusion or restriction" that would demonstrate a disclaimer of scope. *Liebel-Flarsheim*, 358 F.3d at 906.

Defendant also contends that "measuring and holding" the voltage signal is required in order to generate the first feedback signal. (Tr. at 94) Plaintiffs disagree. (Tr. at 91-92) The Court concludes that this is a factual dispute over infringement, appropriate for resolution by a jury based on evidence and not by the Court at the stage of claim construction.

The Court also does not agree that sampling can only occur "at the end of the discharge time," as Defendant proposes. The Court's construction is supported by the specification. For example, FIG. 2 of the '972 patent depicts sample signals V_{SP1} and V_{SP2} occurring throughout the entire discharge time (T_{DS}). Defendant concedes that sampling can occur throughout the entire discharge time (Tr. at 98-99), but contends that voltage samples taken at the end of discharge time are more accurate (Tr. at 96-98). While that may be true, it is not a basis to narrow the scope of the claims.

B. U.S. Pat. No. 7,525,259

1. "means for regulating the power supply system" [claim 1]

Plaintiffs' Proposed Construction	Not means-plus-function. Proposed Construction: "regulating circuit" *Should the court find that 35 U.S.C. 112, 6 applies, Fairchild proposes the following*: The function is as recited in the claim. The corresponding structure is control circuit 16 and feedback circuit 20 as depicted in Figures 1 and 2. The control circuit structure is comprised of a power switch having a terminal which is connected to winding 34 of transformer 18 and terminals for feedback voltage for limiting peak drain current, as described in Col. 2: lines 59-61 and Col. 4: lines 37- 59. The corresponding structure for feedback circuit 20 is diodes, capacitors, resistors and transistors, as described in Col. 3:37-41.
Defendant's Proposed Construction	"means for regulating the power supply system" is a means-plus-function element. The function is plain from the language of the claims, including the language describing the related elements. The corresponding structure for the control circuit is set forth in "control circuit 16" shown in Figures 1 and 2 and described in the associated discussion at 2:56-3:8 and 4:43-59; the corresponding structure for the feedback circuit is set forth in "feedback circuit 20" shown in Figure 1 and described in the associated discussion at 3:23-4:32.
Court's Construction	"means for regulating the power supply system" is a means-plus-function element **Function:** "regulating the power supply system from the primary side so that the current provided to the load at the output terminal is substantially constant" **Structure:** The corresponding structure for the control circuit is set forth in "control circuit 16" shown in Figures 1 and 2 and described in the associated discussion at col. 2, line 59 to col. 3, line 9 and col. 4, ll. 37-59. The corresponding structure for the feedback circuit is set forth in "feedback circuit 20" shown in Figure 1 and described in the associated discussion at col. 3, ll. 23-41 and col. 4, ll. 4-11.

The parties have two disagreements. First, the parties disagree whether this claim

element is a "means-plus-function" limitation under 35 U.S.C. § 112(6). The parties also disagree as to the specific structure that corresponds to the claimed function.[2]

With respect to "means-plus-function" limitations, the Federal Circuit has explained that:

> [u]se of the word "means" in claim language creates a presumption that § 112 ¶ 6 applies. If, in addition to the word "means" and the functional language, the claim recites sufficient structure for performing the described functions in their entirety, the presumption of § 112 ¶ 6 is overcome – the limitation is not a means-plus-function limitation. Sufficient structure exists when the claim language specifies the exact structure that performs the functions in question without need to resort to other portions of the specification or extrinsic evidence for an adequate understanding of the structure.

TriMed, Inc. v. Stryker Corp., 514 F.3d 1256, 1259-60 (Fed. Cir. 2008) (internal citations omitted). In this case, the claim element includes the word "means," thereby invoking the means-plus-function presumption. Thus, the question for the Court is whether the claim recites sufficiently definite structure to perform the identified function and overcome the presumption.[3]

The identified function includes at least "regulating the power supply system from the primary side so that the current provided to the load at the output terminal is substantially constant." According to the '259 patent, this regulating function provides "significant advantages" over the prior art:

> Power supply system 10 provides a constant output current to load 6, when the load voltage is lower than a certain value, using primary side regulation. As such, power supply system 10 does not require an optocoupler for feedback from the secondary side of

---

[2]The parties' briefs do not expressly set out what they believe to be the appropriate function.

[3]The means-plus-function analysis is performed from the standpoint of one skilled in the art. *See Inventio AG v. Thyssenkrupp Elevator Ams. Corp.*, 649 F.3d 1350, 1357 (Fed. Cir. 2011). While neither side identified the applicable level of skill in the art in its papers, at the hearing both sides agreed that the dispute over this term does not turn on the level of skill in the art. (Tr. at 50, 56)

> transformer 28. This reduces the cost of implementation, thus providing significant advantages.

(col. 4, ll. 37-42) Claim 1 associates a "control circuit," a "feedback circuit," and a "power switch" with the recited function. Plaintiffs contend that these three elements confer sufficient structure to overcome the means-plus-function presumption. The Court disagrees.

Generic versions of a "control circuit," a "feedback circuit," and a "power switch" have long been known in the art. The advantages associated with the invention of the '259 patent can only result from the specific arrangement of components that make up these elements. One of ordinary skill in the art would need to look to the specification in order to understand the structure required to obtain those advantages. While the term "circuit" alone connotes some structure, that structure does not overcome the means-plus-function presumption in this case.[4]

The parties also disagree as to the specific structure that corresponds to the recited function. Structure disclosed in the specification is only considered "corresponding" if "the specification or prosecution history clearly links or associates that structure to the function recited in the claim." *B. Braun*, 124 F.3d at 1424. In addition, "[w]hen multiple embodiments in the specification correspond to the claimed function, proper application of § 112, P 6 generally reads the claim element to embrace each of those embodiments." *Micro Chemical, Inc. v. Great Plains Chemical Co., Inc.*, 194 F.3d 1250 (Fed. Cir. 1999).

In this case, the specification teaches that control circuit 16 "may be implemented on one

---

[4]Plaintiffs' citations to *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1364 (Fed. Cir. 2013), *Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1355 (Fed. Cir. 2006), and *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311 (Fed. Cir. 2004), for the proposition that the word "circuit" connotes sufficient structure, are unavailing, because the claim terms at issue in those cases did not use the word "means" – and, thus, did not invoke the means-plus-function presumption.

or more suitable integrated circuit (IC) devices with current control and current limiting features." ('259 patent at col. 2, line 65 to col. 3, line 1) One example of this IC is Fairchild's FSDX321 chip. Plaintiffs provide no reason why the corresponding structure should not include this chip.

With respect to the feedback circuit 20, this circuit has two parts: "One part of feedback circuit 20 is associated with a steady-state condition of power supply system 10 until the output voltage V_{OUT} begins to drop; another part of feedback circuit 20 is used to enable or provide a constant output current for system 10 after the output voltage V_{OUT} has begun to drop." (*Id.* at col. 3, ll. 32-37) Plaintiffs propose to include only the structure associated with the steady-state condition, but do not explain why the second part of the circuit should be excluded. Defendant, on the other hand, includes the entire structure. The Court will adopt most of Defendant's proposal, eliminating the portions directed to the description of the feedback circuit's function.

2. "the control circuit and the feedback circuit are operable to regulate" [claim 1] and "the feedback circuit operable to support regulation by the control circuit" [claims 8 & 13]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *If construction is necessary:* "the feedback circuit and control circuit work together to control the switching of the power switch"
Defendant's Proposed Construction	"the feedback circuit and the control circuit cooperate to sense the output and switch the power switch in response, so as to drive the output toward a predetermined level"
Court's Construction	"the feedback circuit and the control circuit cooperate to sense the output and switch the power switch in response, so as to drive the output"

At the hearing, Plaintiffs agreed to a large portion of Defendant's proposed construction. (Tr. at 77) The only remaining disagreement is whether the output must be driven "toward a

predetermined level," as Defendant proposes. The words "predetermined level" do not appear in the specification. The portions of the specification cited by Defendant likewise do not require driving the output to "a predetermined level." Accordingly, the Court will not include the "predetermined level" requirement in the construction.

C. U.S. Pat. No. 7,286,123

1. "generating a LED current for controlling the LED" [claim 8]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *In the alternative, to the extent the Court deems construction necessary:* "producing at an output terminal of the control circuit a current for the LED"
Defendant's Proposed Construction	"producing at an output terminal of the control circuit the current that flows through the LED for controlling the LED"
Court's Construction	"producing at an output terminal of the control circuit a current for controlling the LED"

The parties' dispute regarding this phrase centers on the words "controlling the LED." Defendant contends that controlling the LED requires "current [to] flow[] through the LED." (D.I. 59 at 4) Plaintiffs believe that the LED can be controlled indirectly, for example, through an auxiliary circuit. (Tr. at 11)

Defendant identifies a single sentence in the specification that refers to current "flow[ing] through the LED." (D.I. 59 at 4) (citing '123 patent at col. 1, lines 13-15) This portion of the specification, however, does not amount to a clear and unambiguous disclaimer of scope. The related '090 patent cited by the Defendant also does not compel a narrowing construction. (D.I. 59 at 5)

Both parties rely on competing expert opinions in support of their positions. While

Defendant's expert contends that an LED cannot be controlled unless current flows through the LED (D.I. 71 ¶ 11), Plaintiffs' expert apparently disagrees (Tr. at 7-8). The Court concludes that this is a factual dispute for the jury to resolve. Accordingly, the Court will adopt the agreed-to portion of both parties' construction and will give the term "controlling" its plain and ordinary meaning. At the hearing, Plaintiffs agreed to the construction the Court now adopts. (Tr. at 22)

2. "a sense terminal of the control circuit, coupled to the LED for detecting a LED voltage, wherein the LED voltage is coupled for adjusting the LED current" [claim 8]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *In the alternative, to the extent the Court deems construction necessary:* "a sense terminal of the control circuit, connected to the LED without a light sensor for detecting a LED voltage, wherein the LED voltage is coupled for adjusting the LED current"
Defendant's Proposed Construction	"the sense terminal is connected so that it measures the LED voltage, where the LED voltage is distinct from the LED current, and the LED voltage is coupled for adjusting the LED current"
Court's Construction	"the sense terminal is connected so that it detects a value of the LED voltage, not the LED light output, where the LED voltage is distinct from the LED current, and the LED voltage is coupled for adjusting the LED current"

Following the *Markman* hearing, there is only one dispute between the parties with respect to this term. (*See* Tr. at 43-45) Defendant contends that "the LED voltage is distinct from the LED current," while Plaintiffs believe this additional limitation is not necessary. The Court agrees with Defendant.

The Court's construction is supported by the intrinsic evidence. For instance, the claim recites both an LED voltage and an LED current, and thus the "the general assumption is that [these] different terms have different meanings." *Symantec Corp. v. Computer Assocs. Int'l, Inc.*,

522 F.3d 1279, 1289 (Fed. Cir. 2008). In addition, Plaintiffs do not dispute that the LED voltage is "different" from LED current. (Tr. at 32-33) ("I think it very well could be distinct . . . They are certainly different.") Defendant's expert, Dr. Kelley, also explained that LEDs are "Non-Ohmic" and as such, there is no linear relationship between LED current and LED voltage. (D.I. 71 at ¶¶ 13-14) This further supports the conclusion that LED current is distinct from LED voltage.

D. U.S. Pat. No. 6,229,366

1. "a soft start circuit means" [claims 1, 9, and 21]

Plaintiffs' Proposed Construction	Not means-plus-function. Proposed Construction: "a circuit that minimizes in rush currents at start up." *Should the Court find that 35 U.S.C. 112, 6 applies, Fairchild proposes the following*: The function is as recited in the claim. The corresponding structure is softstart circuit 410 (latch 550, comparator 460, and gate 455) shown in Figs. 3, 6, and 9 and described at col. 6: 50- Col. 7:18.
Defendant's Proposed Construction	"soft start circuit means" is a means-plus function element. The functions of the soft start circuit are construed in accordance with the plain meaning of the claims setting forth such soft start circuit functions. The corresponding structures related to the soft start circuit are shown in Figures 3, 6, and 9 of the '366 patent and described in the specification of the '366 patent at 6:7-17; 6:35-7:18; 11:40-50; and 12:5-10.
Court's Construction	"Soft start circuit means" is a means-plus function element. **Function**: The functions of the soft start circuit are construed in accordance with the plain meaning of the claims setting forth such soft start circuit functions. **Structure**: The corresponding structures related to the soft start circuit are shown in Figures 3, 6, and 9 of the '366 patent and described in the specification of the '366 patent at col. 6, ll. 7-17; col. 6, line 35- col. 7, line 18; col. 11, ll. 40-50; and col. 12, ll. 5-10.

Power Integrations has previously asserted the '366 patent against Fairchild, including

claims that required a "soft start circuit." (*See* C.A. No. 04-1371-LPS) In the earlier case, this Court construed the term "soft start circuit" as a means-plus function limitation, and the jury returned a verdict of infringement against Fairchild. Fairchild appealed and the Federal Circuit reversed the construction of "soft start circuit." *See Power Integrations*, 711 F.3d at 1364. The Federal Circuit concluded that the claim contained sufficient structure to avoid the "soft start circuit" being construed as a means-plus-function term. *See id.*

However, concurrent with the pendency of the Federal Circuit appeal, the '366 patent underwent reexamination at the PTO. During reexamination, Power Integrations amended the '366 patent claims to require a "soft start circuit ***means***." (D.I. 63 Ex. 11) Power relied on this amendment to overcome the Examiner's rejection, and, subsequently, the claims were allowed. The Federal Circuit did not consider the impact of the reexamination on the scope of this claim term; it instructed this Court to do so on remand. *See Power Integrations*, 711 F.3d at 1366.

The parties dispute whether the amended "soft start circuit means" term should now be construed as a means-plus-function claim element. Plaintiffs contend that the Federal Circuit's opinion is controlling, as the Federal Circuit has already determined that the claim contains enough structure to avoid a means-plus-function construction. Defendant responds that the Federal Circuit opinion is not controlling because the claims have since been amended.

The Court agrees with Defendant. By amending the claim to include the word "means," and distinguishing the amended claim from the prior art on this basis, Defendant disclaimed the broader (non-means-plus-function) interpretation. *See ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580 (Fed. Cir. 1988) ("The prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or

disavowed during prosecution in order to obtain claim allowance."). Adopting Plaintiffs' proposed construction would require the Court to ignore Defendant's clear and unambiguous disclaimer. Moreover, "[u]se of the word 'means' in claim language creates a presumption that § 112 ¶ 6 applies." *TriMed*, 514 F.3d at 1259-60. Because the original claims of the '366 patent did not contain the word "means," this presumption did not previously apply to this term. *See Power Integrations*, 711 F.3d at 1364 ("If a claim term does not use the word 'means,' we presume that means-plus-function claiming does not apply."). The presumption does now apply – and here it has not been overcome.

The parties also disagree regarding the specific structure that corresponds to the recited function of the "soft start circuit means." The structure proposed by Defendant is the same structure previously identified by this Court. Plaintiffs contend that Defendant's proposed structure is overly broad, but do not explain where the Court erred in adopting this structure. The Court will adopt Defendant's proposed structure.

2. "An oscillator that provides a maximum duty cycle signal comprising an on-state and an off-state" [claim 1]

Plaintiffs' Proposed Construction	"An oscillator that provides a maximum duty cycle signal that is distinct from other signals, the maximum duty cycle signal having an on-state and an off-state"
Defendant's Proposed Construction	"the oscillator determines the state of a signal that controls the maximum on time of the switch in any given cycle"
Court's Construction	"the oscillator determines the state of a signal that controls the maximum on time of the switch in any given cycle"

The dispute is whether the claim requires a "maximum duty cycle signal that is distinct from other signals," as Plaintiffs propose. Plaintiffs contend that this additional language is

required because every embodiment in the specification shows a distinct maximum duty cycle signal. (D.I. 72 at 12) However, "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Liebel-Flarsheim*, 358 F.3d at 906. Plaintiffs are unable to identify any "words or expressions of manifest exclusion or restriction" in the specification. Without such evidence of clear intent on the part of the patentee, it would be inappropriate to limit the claim to a preferred embodiment.

E. U.S. Pat. No. 8,115,457

1. "a control circuit coupled to an input of a power converter" [1, 23, and 29]

Plaintiffs' Proposed Construction	"a control circuit connected to the input of the power converter such that a voltage, current, or control signal passes to or from the control circuit to the input of the power converter"
Defendant's Proposed Construction	"a control circuit coupled to terminals for accepting unregulated power for a power converter"
Court's Construction	"a control circuit connected to the input of the power converter such that a voltage, current, or control signal passes to or from the control circuit *to the input of the power converter*"

The parties' dispute centers on the appropriate construction for the phrase "an input of a power converter." Defendant contends that this phrase refers only to input terminals for accepting "unregulated" power. (D.I. 59 at 25) Plaintiffs dispute this limitation. The Court agrees with Plaintiffs.

The specification supports the Court's construction. According to the specification, the invention "can be applied to any system coupled to a source of electrical energy where the

capacitance coupled between input terminals of the circuit poses a risk of electrical shock if left charged when the source of electrical energy is uncoupled from the input to the system." ('457 patent at col. 16, ll. 19-23) The capacitor "coupled between input terminals" (which is what causes the risk of electrical shock (Tr. at 167)) can be charged by any kind of electrical power source – regulated, unregulated, AC, or DC. The specification explicitly states that an electrical energy source "can be a dc or ac source." ('457 patent at col. 1, ll. 26-27)

Defendant's arguments for its position are unpersuasive. The word "unregulated" does not appear in the specification. Additionally, the portions of the specification identified by Defendant do not amount to a clear and unambiguous disclaimer of scope.

2. "when the electrical energy source is uncoupled from the input of the power converter" [claim 1]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *Or, in the alternative*: "a capacitor having a first terminal connected to a first one of the input terminals of the power converter and a second terminal connected to a second one of the input terminals of the power converter"
Defendant's Proposed Construction	"at least one capacitor coupled between electrical terminals for accepting AC input voltage"
Court's Construction	Plain and ordinary meaning, no construction necessary

The parties' dispute over the phrase "when the electrical energy source is uncoupled from the input of the power converter" is substantively identical to their dispute over "a control circuit coupled to an input of a power converter." Under the circumstances, no construction beyond the plain and ordinary meaning is necessary to resolve this dispute.

3. "a capacitance coupled between input terminals of the input of the power converter" [claims 23 and 29]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *Or, in the alternative*: "when the electrical energy source is not connected such that a voltage, current, or control signal passes to the input of the power converter"
Defendant's Proposed Construction	"when the AC input connector of the power supply is unplugged"
Court's Construction	Plain and ordinary meaning, no construction necessary

As with the previous term, the parties' dispute over the phrase "a capacitance coupled between input terminals of the input of the power converter" is substantively identical to their dispute over "a control circuit coupled to an input of a power converter." Under the circumstances, no construction beyond the plain and ordinary meaning is necessary to resolve this dispute.

F. U.S. Pat. Nos. 7,952,895 and 7,995,359

1. "render dormant the drive signal generator" [claim 1 of the '859 patent, and claims 1 and 29 of the '359 patent]

Plaintiffs' Proposed Construction	"mode of operation where the drive signal generator is powered down such that the drive signal generator is unresponsive" To the extent unresponsiveness is not included in the definition of the term, the term is indefinite.
Defendant's Proposed Construction	"to place the drive signal generator into a reduced energy consumption state"
Court's Construction	"to place the drive signal generator into a reduced energy consumption state"

The parties have two disputes relating to this term. The first dispute is whether the words "render dormant" require the drive signal generator to be "powered down," as Plaintiffs contend,

or simply put in a "reduced state of operation," as proposed by Defendant. The second dispute is whether the words "render dormant" also require "the drive signal generator [to be] unresponsive," as Plaintiffs contend. Defendant believes that this additional limitation is not required. The Court agrees with Defendant on both disputes.

With respect to the "power down" issue, Plaintiffs correctly note that the only relevant embodiment in both the '895 and '359 patents requires powering down the drive signal generator when the drive signal generator enters the dormant mode. However, this is not a sufficient basis to limit the claims as Plaintiffs request. Instead, generally, as the Federal Circuit has explained, "[r]eferences to a preferred embodiment, such as those often present in a specification, are not claim limitations." *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1998). Unaware of any "expressions of manifest exclusion or restriction," the Court declines to limit the claim to the preferred embodiment. *See Liebel-Flarsheim*, 358 F.3d at 906.

For the second dispute, the Court does not agree with Plaintiffs that the words "render dormant" in the claim require "the drive signal generator [to be] unresponsive." The "unresponsive" limitation already appears separately in some, but not all, claims of the '895 and '359 patents. Where a claim separately requires the drive signal generator to be "unresponsive," Plaintiffs' proposed limitation is not necessary. For the remaining claims, adopting Plaintiffs' proposed construction would be inconsistent with the doctrine of claim differentiation. *See Phillips*, 415 F.3d at 1315 ("[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim."). For example, independent claim 27 of the '895 patent does not include the "unresponsive" requirement, while claim 28, which depends from claim 27, requires "the drive

signal generator and feedback circuit . . . to be unresponsive to changes in the energy requirement of the one or more loads when dormant . . . ." Plaintiffs offer no persuasive reason to insert the "unresponsive" requirement into every claim of the '895 and '359 patents.

Plaintiffs also contend that if their proposed "unresponsive" requirement is not adopted, claims containing the disputed phrase will be rendered indefinite. The Court does not agree. A claim is "sufficiently definite to inform the public of the bounds of the protected invention" unless the term is "insolubly ambiguous." *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008). Plaintiffs have failed to establish "by clear and convincing evidence that a skilled artisan could not discern the boundaries of the claim based on the claim language, the specification, and the prosecution history, as well as her knowledge of the relevant art area." *Id.* at 1249.

2. "power up the drive signal generator" [claim 1 of the '859 patent and claims 1 and 31 of the '359 patent]

Plaintiffs' Proposed Construction	Plain and ordinary meaning, no construction necessary. *Or, in the alternative*: "to provide power to the drive signal generator
Defendant's Proposed Construction	"to restore the drive signal generator from a reduced energy consumption state"
Court's Construction	"to restore the drive signal generator from a reduced energy consumption state"

The parties agree that their dispute over the phrase "power up the drive signal generator" should be resolved consistently with the term "render dormant the drive signal generator." (D.I. 69 at 20) Hence, for the reasons provided in connection with the preceding term, the Court adopts Defendant's construction for the phrase "power up the drive signal generator."

G. U.S. Pat. No. 7,876,587

1. "current input circuit" [claim 10]

Plaintiffs' Proposed Construction	"a circuit that receives a current and produces or generates an output signal in response to the received current; a 'current input circuit' does not include voltage dividers and other circuits that monitor voltage"
Defendant's Proposed Construction	"a circuit that receives a current and produces or generates an output signal in response to the received current; a 'current input circuit' does not include voltage dividers and other circuits that monitor voltage, although a 'current input circuit' may receive a current that is representative of a voltage"
Court's Construction	"a circuit that receives a current and produces or generates an output signal in response to the received current; a 'current input circuit' does not include voltage dividers and other circuits that monitor voltage, although a 'current input circuit' may receive a current that is representative of a voltage"

The parties largely agree to the appropriate construction for the term "current input circuit." The only dispute is whether the phrase "although a 'current input circuit' may receive a current that is representative of a voltage," proposed by the Defendant, should be included in the construction. Defendant's proposal reflects the construction adopted by the International Trade Commission ("ITC") during litigation between the same parties. (D.I. 59 at 20) According to the ITC, the "specification of the asserted patent shows that although a 'current input circuit' should exclude voltage dividers and other circuits that monitor voltage, said 'current input circuit' may receive a current that is representative of a voltage." *In re Certain Power Supply Controllers & Prods. Containing Same*, Inv. No. 337-TA-541, USITC Pub. 3993, 2008 ITC LEXIS 773, 43-44 (May 1, 2008). Plaintiffs criticize Defendant's proposed construction as "unnecessary" and contend that it will "only serve to confuse and mislead the jury." (D.I. 60 at

26) The Court is not persuaded that Defendant's construction is confusing or misleading and will (like the ITC) adopt it.

2. "current limit" [claims 10 and 13]

Plaintiffs' Proposed Construction	"an external current limit"
Defendant's Proposed Construction	"a prescribed threshold of current through a power switch, distinct from the control circuit regulation threshold, such that when the current through the power switch reaches this limit, the power switch turns off to prevent the current from exceeding the threshold, irrespective of the level of the control circuit regulation threshold"
Court's Construction	"a prescribed threshold of current through a power switch, distinct from the control circuit regulation threshold, such that when the current through the power switch reaches this limit, the power switch turns off to prevent the current from exceeding the threshold, irrespective of the level of the control circuit regulation threshold"

Plaintiffs contend that the "current limit" must be externally set. (D.I. 60 at 28) According to Plaintiffs, the "specification repeatedly and only describes the current limit as being set externally." (D.I. 60 at 27) Plaintiffs also contend that an externally set current limit provides certain benefits, which are detailed in the specification. (*Id.*) However, the word "external" does not appear in the claims, and nothing in the specification expressly precludes an internal current limit. Indeed, the specification shows a current limit adjuster 313 (which generates the current limit adjustment signal) that is internal to the current input circuit 302. (*See* '587 patent at FIG. 4) Given the absence of any language in the specification that would amount to a clear disavowal of claim scope, the Court will not import the word "external" into the claims.

The Court agrees with Defendant that the current limit must be "distinct from the control

circuit regulation threshold." The Court's construction is supported by arguments made by Defendant during reexamination of a related patent, U.S. Pat. No. 6,351,398 ("the '398 patent"). The '398 patent has the same specification as the '587 patent, and the disputed term also appears in the '398 patent claims. During reexamination of the '398 patent, Defendant argued that "using a feedback signal for regulating peak current through the power switch . . . is different from adjusting a current limit in the manner claimed." Defendant also explained that "setting a maximum safe current limit . . . is distinct from current mode feedback regulation." (D.I. 51 Ex. E-4) The Court concludes that these arguments are a clear and unambiguous disclaimer of scope, and that, as a result, Defendant has narrowed the scope of the claim to exclude current mode control regulation. *See Spectrum Int'l*, 164 F.3d at 1378 ("[S]tatements made by a patent applicant during prosecution to distinguish a claimed invention over prior art may serve to narrow the scope of a claim.").

Plaintiffs have not addressed the reexamination disclaimer. Instead, Plaintiffs contend that Defendant's proposed construction is improper because it would exclude the embodiment illustrated in FIG. 2F. This argument is not persuasive for two reasons. First, the embodiment of FIG. 2F is directed to "current mode control," which is the mode of operation disclaimed during reexamination. Second, as Defendant explained, regardless of the Court's construction for this term, claim 10 cannot cover the embodiment of FIG. 2F due to additional limitations recited in that claim. (*See* Tr. at 149-50)

3. "current limit adjustment signal" [claims 10 and 13]

Plaintiffs' Proposed Construction	"a signal that represents the externally set current limit"
Defendant's Proposed Construction	"a signal that is used to adjust, or vary, the current limit value"
Court's Construction	"a signal that is used to adjust, or vary, the current limit value"

Plaintiffs propose to include the word "externally" in the construction of this term as well. (D.I. 72 at 20) For the reasons provided with respect to the term "current limit," the Court will adopt Defendant's proposed construction.

4. "dynamically adjust a current limit" [claim 10]

Plaintiffs' Proposed Construction	"the current limit varies during operation of the power supply"
Defendant's Proposed Construction	"the current limit may vary during operation of the power supply"
Court's Construction	"the current limit may vary during operation of the power supply"

The Court's construction is supported by the intrinsic evidence. The term "dynamically adjust a current limit" appears in claim 10, which is an apparatus claim. Apparatus claim 10 requires only that "the control circuit [be] coupled to dynamically adjust a current limit of a current through a power switch in response to the current limit adjustment signal." The Court agrees with Defendant that the term "coupled to dynamically adjust" is a term of capability, requiring a current limit that is capable of being dynamically adjusted, rather than imposing a mandatory duty to adjust at all times. (*See* Tr. at 165-66) Accordingly, the Court will adopt Defendant's proposed construction.

III. CONCLUSION

For the foregoing reasons, the Court will construe the disputed claim terms of the patents-in-suit consistent with this Memorandum Opinion. An appropriate Order follows.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

FAIRCHILD SEMICONDUCTOR CORPORATION, and SYSTEM GENERAL CORPORATION,	:	
Plaintiffs,	:	
v.	:	C.A. No. 12-540-LPS
POWER INTEGRATIONS, INC.,	:	
Defendant.	:	

ORDER

At Wilmington this 28sth day of August, 2013:

For the reasons set forth in the Memorandum Opinion issued this date, IT IS HEREBY ORDERED that the disputed claim language of: (1) U.S. Pat. No. 7,259,972 ("the '972 patent"); (2) U.S. Pat. No. 7,525,259 ("the '259 patent"); (3) U.S. Pat. No. 7,286,123 ("the '123 patent"); (4) U.S. Pat. No. 6,229,366 ("the '366 patent"); (5) U.S. Pat. No. 7,995,359 ("the '359 patent"); (6) U.S. Pat. No. 7,952,895 ("the '895 patent"); (7) U.S. Pat. No. 7,876,587 ("the '587 patent"); and (8) U.S. Pat. No. 8,115,457 ("the '457 patent") shall be construed as follows:

1. "**a second feedback signal associated with a current control loop**," which appears in claims 1 and 15 of the '972 patent, is construed to mean "a second feedback signal, distinct from the first feedback signal, associated with a current control loop wherein the current control loop does not use a current limit comparator."

2. "**generates the first feedback signal by sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer**," which

appears in claim 6 of the '972 patent, and "**generating the first feedback signal by sampling a voltage from the auxiliary winding of the transformer and a discharge time of the transformer**," which appears in claim 18 of the '972 patent, are construed to mean "sampling a voltage from the auxiliary winding of the transformer when the transformer is discharging."

3. "**means for regulating the power supply system**," which appears in claim 1 of the '259 patent, is a means-plus-function element, and is construed to have the function of "regulating the power supply system from the primary side so that the current provided to the load at the output terminal is substantially constant" and the following structure: "The corresponding structure for the control circuit is set forth in 'control circuit 16' shown in Figures 1 and 2 and described in the associated discussion at col. 2, line 59 to col. 3, line 9 and col. 4, ll. 37- 59. The corresponding structure for the feedback circuit is set forth in 'feedback circuit 20' shown in Figure 1 and described in the associated discussion at col. 3 ll. 23-41 and col. 4, ll. 4-11."

4. "**the control circuit and the feedback circuit are operable to regulate**," which appears in claim 1 of the '259 patent, and "**the feedback circuit operable to support regulation by the control circuit**," which appears in claims 8 and 13 of the '259 patent, are construed to mean "the feedback circuit and the control circuit cooperate to sense the output and switch the power switch in response, so as to drive the output."

5. "**generating a LED current for controlling the LED**," which appears in claim 8 of the '123 patent, is construed to mean "producing at an output terminal of the

control circuit a current for controlling the LED."

6. "**a sense terminal of the control circuit, coupled to the LED for detecting a LED voltage, wherein the LED voltage is coupled for adjusting the LED current**," which appears in claim 8 of the '123 patent, is construed to mean "the sense terminal is connected so that it detects a value of the LED voltage, not the LED light output, where the LED voltage is distinct from the LED current, and the LED voltage is coupled for adjusting the LED current."

7. "**a soft start circuit means**," which appears in claims 1, 9, and 21 of the '366 patent, is a means-plus function element. The functions of the soft start circuit are construed in accordance with the plain meaning of the claims setting forth such soft start circuit functions. The corresponding structures related to the soft start circuit are shown in Figures 3, 6, and 9 of the '366 patent and described in the specification of the '366 patent at col. 6, ll. 7-17; col. 6, line 35- col. 7, line 18; col. 11, ll. 40-50; and col. 12, ll. 5-10.

8. "**An oscillator that provides a maximum duty cycle signal comprising an on-state and an off-state**," which appears in claim 1 of the '366 patent, is construed to mean "the oscillator determines the state of a signal that controls the maximum on time of the switch in any given cycle."

9. "**a control circuit coupled to an input of a power converter**," which appears in claims 1, 23, and 29 of the '457 patent, is construed to mean "a control circuit connected to the input of the power converter such that a voltage, current, or control signal passes to or from the control circuit to the input of the power converter."

10. "**when the electrical energy source is uncoupled from the input of the power converter**," which appears in claim 1 of the '457 patent, does not require any additional construction, and will be given its plain and ordinary meaning.

11. "**a capacitance coupled between input terminals of the input of the power converter**," which appears in claims 23 and 29 of the '457 patent, does not require any additional construction, and will be given its plain and ordinary meaning.

12. "**render dormant the drive signal generator**," which appears in claim 1 of the '859 patent and claims 1 and 29 of the '359 patent, is construed to mean "to place the drive signal generator into a reduced energy consumption state."

13. "**power up the drive signal generator**," which appears in claim 1 of the '859 patent and claims 1 and 31 of the '359 patent, is construed to mean "to restore the drive signal generator from a reduced energy consumption state."

14. "**current input circuit**," which appears in claim 10 of the '587 patent, is construed to mean "a circuit that receives a current and produces or generates an output signal in response to the received current; a 'current input circuit' does not include voltage dividers and other circuits that monitor voltage, although a 'current input circuit' may receive a current that is representative of a voltage".

15. "**current limit**," which appears in claims 10 and 13 of the '587 patent, is construed to mean "a prescribed threshold of current through a power switch, distinct from the control circuit regulation threshold, such that when the current through the power switch reaches this limit, the power switch turns off to prevent the current from exceeding the threshold, irrespective of the level of the control

circuit regulation threshold."

16. "**current limit adjustment signal**," which appears in claim 10 and 13 of the '587 patent, is construed to mean "a signal that is used to adjust, or vary, the current limit value."

17. "**dynamically adjust a current limit**," which appears in claim 10 of the '587 patent, is construed to mean "the current limit may vary during operation of the power supply."

UNITED STATES DISTRICT JUDGE