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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

SILICON LABORATORIES, INC.,
Plaintiff,
v.
CRESTA TECHNOLOGY
CORPORATION,
Defendant.

Case No. [14-cv-03227-PSG](#)
**ORDER RE: MOTIONS FOR
SUMMARY JUDGMENT AND
DEFENDANT’S MOTION TO STRIKE**
(Re: Docket No. 140-3, 144-3, 146-20, 168)

Plaintiff Silicon Laboratories, Inc. alleges that Defendant Cresta Technology Corporation’s TV tuners infringe six Silicon Labs patents covering certain frequency synthesizer circuits.¹ With trial just around the corner, the parties have filed competing motions for summary judgment.² CrestaTech also has filed a separate motion to strike an expert declaration that Silicon Labs submitted in opposition to CrestaTech’s summary judgment motion.³

The court already has issued separate orders on laches⁴ and indefiniteness,⁵ but the parties’ motions present a number of other issues. Long story short, Silicon Labs’ motions for summary judgment are GRANTED, but in limited part. Both of CrestaTech’s motions are DENIED.

¹ See Docket No. 1.

² See Docket Nos. 140-3, 144-3, 146-20.

³ See Docket No. 168.

⁴ See Docket No. 204.

⁵ See Docket No. 206.

I.

1 Silicon Labs began in Austin, Texas, in 1996.⁶ In the twenty years since, the company has
2 developed and sold a variety of silicon-based TV tuners, with many name-brand TV sets now
3 including Silicon Labs components.⁷ CrestaTech was founded by Mihai Murgulescu and George
4 Haber in 2005.⁸ Its initial products included a receiver for satellite radio and a television
5 platform.⁹ CrestaTech entered the TV tuner market in September 2011, when it acquired the
6 assets of Xceive Inc., a company developing and selling television tuners.¹⁰ Among the assets that
7 CrestaTech acquired was the XC5000 series of television tuner products¹¹—the accused products
8 in this suit.¹²

9 Silicon Labs asserts six patents against these products: U.S. Patent Nos. 6,137,372,
10 6,233,441, 6,304,146, 6,308,055, 6,965,761 and 7,353,011.¹³ All six name David Welland of
11 Silicon Labs as their inventor, share an effectively identical specification and claim priority to
12 patent applications filed on May 29, 1998.¹⁴ The patents cover a frequency synthesizer circuit.¹⁵
13 That means an integrated circuit that generates an output signal at a desired frequency.¹⁶

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15 ⁶ See Docket No. 1 at ¶ 17.

16 ⁷ See *id.* at ¶¶ 16-17.

17 ⁸ See Docket No. 146-3 at 23:4-6, 9, 12.

18 ⁹ See *id.* at 24:23-24, 25:1-7, 13-19.

19 ¹⁰ See *id.* at 28:2-6, 19-22.

20 ¹¹ See *id.* at 53:7-11.

21 ¹² See Docket No. 1 at ¶¶ 19-20.

22 ¹³ See *id.* at ¶¶ 21-62.

23 ¹⁴ See Docket Nos. 1-1, 1-2, 1-3, 1-4, 1-5, 1-6.

24 ¹⁵ See Docket No. 1-1 at col. 1:7-10. Simply for the sake of brevity, all citations here are to the
25 '055 patent. The other specifications are identical in all relevant respects.

26 ¹⁶ See *id.* at col. 3:30-34.

1 According to the specification, the novelty of the invention lies in its ability to generate a pure
2 output signal despite its greater degree of integration onto a single chip compared to the prior art.¹⁷

3 The output frequency from the frequency synthesizer depends on the capacitance of a pair
4 of smaller circuits within the synthesizer.¹⁸ One of these variable capacitance circuits can be set to
5 any of a discrete set of capacitance values, while the other varies continuously within a smaller
6 range.¹⁹ In effect, the discretely variable capacitance circuit allows for coarse tuning adjustment
7 of the output frequency, and the continuously variable capacitance circuit allows finer tuning.²⁰
8 The figure below shows a high-level view of the frequency synthesizer. C_D represents the
9 discretely variable capacitance circuit, C_A the continuously variable capacitance circuit, B_C and V_C
10 their respective control signals and f_{OUT} the output frequency.²¹

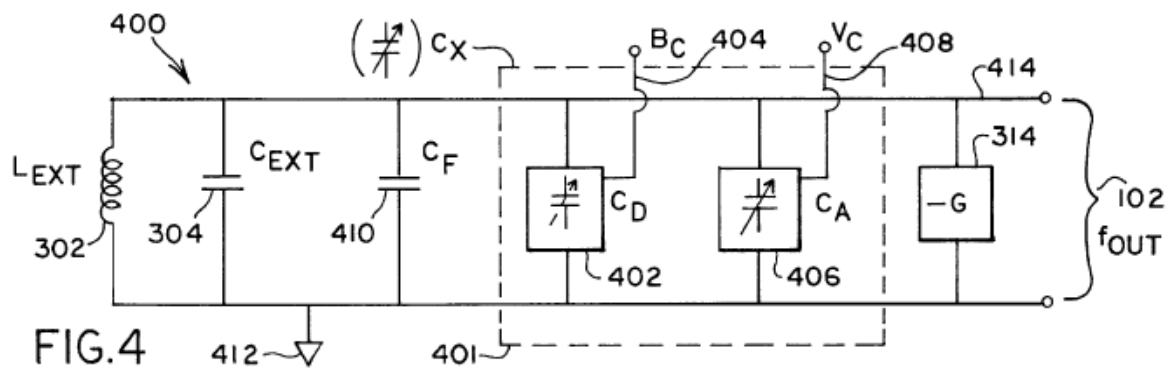


FIG. 4

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18 The six patents at issue differ materially only as to their abstracts and claims. Some claims
19 cover different aspects of the apparatus itself, while others are method claims related to how the

21 ¹⁷ See *id.* at col. 3:23-34.

22 ¹⁸ See *id.* at col. 3:34-39.

23 ¹⁹ See *id.* at col. 8:8-15.

24 ²⁰ See *id.* at col. 3:39-47, 8:25-39.

25 ²¹ See *id.* at col. 8:1-15.

26 ²² *Id.* at fig. 4.

1 frequency synthesizer operates.²³ In all, Silicon Labs has asserted 23 claims across these six
2 patents.²⁴

3 **II.**

4 This court has jurisdiction under 28 U.S.C. §§ 1331 and 1338. The parties further consent
5 to the jurisdiction of the undersigned under 28 U.S.C. § 636(c) and Fed. R. Civ. P. 72(a).²⁵

6 **III.**

7 Pursuant to Fed. R. Civ. P. 56(a), summary judgment is appropriate when “there is no
8 genuine issue as to any material fact and the moving party is entitled to judgment as a matter of
9 law.” Material facts are those that may affect the outcome of the case.²⁶ A dispute as to a material
10 fact is genuine if there is sufficient evidence for a reasonable jury to return a verdict for the
11 non-moving party.²⁷ All evidence must be viewed in the light most favorable to the non-moving
12 party. At this stage, a court “does not assess credibility or weigh the evidence, but simply
13 determines whether there is a genuine factual issue for trial.”²⁸ Initially, the moving party bears
14 the burden to show that no genuine issue of material fact exists.²⁹ If this burden is met, the burden
15 shifts to the non-moving party.³⁰ For the majority of the issues that the parties raise in their

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17 ²³ See Docket No. 1-1 at col. 31-36; Docket No. 1-2 at col. 31-34; Docket No. 1-3 at col. 31-34;
18 Docket No. 1-4 at col. 31-34; Docket No. 1-5 at col. 31-34; Docket No. 1-6 at col. 31-36.

19 ²⁴ See Docket No. 64-2 at 2.

20 ²⁵ See Docket Nos. 21, 22.

21 ²⁶ See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) (“Only disputes over facts that
22 may affect the outcome of the suit under governing law will properly preclude the entry of
summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted.”).

23 ²⁷ See *id.*

24 ²⁸ *House v. Bell*, 547 U.S. 518, 559-60 (2006).

25 ²⁹ See *Celotex Corp. v. Caltrett*, 477 U.S. 317, 323-24 (1986).

26 ³⁰ See *T.W. Elec. Serv., Inc. v. Pac. Elec. Contractors Ass’n*, 809 F.2d 630, 630 (9th Cir. 1987).

1 papers, they have not satisfied this exacting standard.

2 **First**, Silicon Labs moves for summary judgment on each of CrestaTech’s affirmative
3 defenses—laches, waiver, estoppel and unclean hands. The court already has ruled in Silicon
4 Labs’ favor on laches,³¹ and CrestaTech has withdrawn its defenses of waiver and unclean
5 hands.³² That leaves only estoppel.

6 An equitable estoppel defense to a patent infringement claim requires the following three
7 elements: “(1) the patentee, through misleading conduct, led the alleged infringer to reasonably
8 believe that the patentee did not intend to enforce its patent against the infringer; (2) the alleged
9 infringer relied on that conduct; and (3) due to its reliance, the alleged infringer would be
10 materially prejudiced if the patentee were permitted to proceed with its charge of infringement.”³³
11 “[S]ilence alone will not create an estoppel unless there was a clear duty to speak, or somehow the
12 patentee’s continued silence reinforces the defendant’s inference from the plaintiff’s known
13 acquiescence that the defendant will be unmolested.”³⁴

14 CrestaTech’s case for estoppel rests on Silicon Labs’ actions when it was considering
15 acquiring or merging with Xceive in 2007.³⁵ As part of the due diligence process, Silicon Labs
16 received documentation on and samples of the XC5000 product, on which Silicon Labs performed
17 extensive tests.³⁶ CrestaTech now argues that Silicon Labs’ silence since 2007 misled CrestaTech
18 into believing that it did not infringe Silicon Labs’ patents.

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20 ³¹ See Docket No. 204.

21 ³² See Docket No. 158-4 at 16.

22 ³³ *Aspex Eyewear Inc. v. Clariti Eyewear, Inc.*, 605 F.3d 1305, 1310 (Fed. Cir. 2010) (citing *A.C.*
23 *Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1028 (Fed. Cir. 1992) (en banc)).

24 ³⁴ *Aukerman*, 960 F.2d at 1043-44 (citation omitted).

25 ³⁵ See Docket No. 146-6.

26 ³⁶ See Docket No. 146-2 at 60:4-18, 63:17-19; Docket No. 146-7.

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1 This defense fares no better than laches. As the court noted in its laches order,³⁷ Silicon
2 Labs obtained the documentation and test products under a non-disclosure agreement that
3 precluded Silicon Labs from analyzing the XC5000 for any purpose other than evaluating the
4 potential business relationship.³⁸ Silicon Labs therefore could not determine whether the products
5 infringed its patents without breaching the terms of the contract.³⁹ Under these circumstances,
6 there could be no clear duty for Silicon Labs to speak, and Silicon Labs had not acquiesced to
7 infringement. Furthermore, CrestaTech has not demonstrated prejudice from its purported
8 reliance on Silicon Labs' silence.⁴⁰

9 **Second**, both sides move for partial summary judgment on the issue of infringement.
10 Silicon Labs seeks a finding that CrestaTech's products infringe claim 11 of the '372 patent and of
11 claims 1, 3, 4 and 6 of the '146 patent. CrestaTech asks the court to hold that it does not infringe
12 any claims of the '146, '055, '761 or '011 patents.

13 CrestaTech identifies two reasons that it does not infringe the '372 patent. First, it argues
14 that claim 11 is indefinite, but the court already has rejected that contention.⁴¹ Second, it observes
15 that the claim's preamble specifies that the claim covers "[a] wireless communication system,"⁴²
16 which the court has construed to mean "a system allowing for at least a one-way wireless
17 communication."⁴³ CrestaTech asserts—without citing any evidence in the record—that the
18 accused products "are primarily used by consumers by plugging the devices into a cable box

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20 ³⁷ See Docket No. 204 at 6-7.

21 ³⁸ See Docket No. 146-7 at §§ 1, 4, 5.

22 ³⁹ See Docket No. 204 at 6-8.

23 ⁴⁰ See *id.* at 8-10.

24 ⁴¹ See Docket No. 206.

25 ⁴² Docket No. 1-5 at col. 32:13.

26 ⁴³ Docket No. 113 at 2.

1 system.”⁴⁴ CrestaTech therefore argues that they are not part of a wireless communication system.

2 Even assuming that CrestaTech is right about how customers use its products, they still
3 infringe claim 11 of the ’372 patent because the preamble to the claim does not limit its coverage.
4 “In general, a preamble limits the invention if it recites essential structure or steps, or if it is
5 ‘necessary to give life, meaning, and vitality’ to the claim.”⁴⁵ “Conversely, a preamble is not
6 limiting ‘where a patentee defines a structurally complete invention in the claim body and uses the
7 preamble only to state a purpose or intended use for the invention.’”⁴⁶ The preamble at issue here
8 falls squarely into the latter category. The claim body defines a complete invention. The term
9 “wireless communication system” in the preamble describes only an intended use; it has no effect
10 on the interpretation of the claim. There is no genuine dispute that CrestaTech infringes claim 11
11 of the ’372 patent.

12 The parties’ next disagreement, over certain claims of the ’146 patent, essentially turns on
13 claim construction. The two independent claims at issue, claims 1 and 4 of the patent, each
14 describe an apparatus that can synthesize frequencies in multiple bands.⁴⁷ The claimed circuit
15 includes a first and second controlled oscillator, each of which operates in a different frequency
16 band.⁴⁸ The output from either oscillator “may be selected to provide the output frequency for
17 the” synthesizer as a whole.⁴⁹ The claims describe each oscillator as “having an output frequency
18 determined by” the combination of a discretely controllable capacitance circuit and a continuously
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21 ⁴⁴ Docket No. 160-3 at 4.

22 ⁴⁵ *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting
Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305 (Fed. Cir. 1999)).

23 ⁴⁶ *Id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)).

24 ⁴⁷ *See* Docket No. 1-4 at col. 31:35-64, 32:6-43.

25 ⁴⁸ *See id.* at col. 31:48-50, 32:27-30.

26 ⁴⁹ *Id.* at col. 31:52-57, 32:31-36.

1 controllable capacitance circuit.⁵⁰

2 CrestaTech’s only non-infringement argument is that the first and second oscillators in its
3 accused products do not “generate any signals (output or otherwise) at the same time.”⁵¹ Instead,
4 at any given time, one oscillator is operating, and the other is turned off.⁵² Therefore, CrestaTech
5 argues, both oscillators never “hav[e] an output frequency” simultaneously.⁵³ But the ’146
6 specification allows for this possibility; it describes a scenario where “[p]ower to the non-used
7 [oscillator] . . . may be shut down.”⁵⁴ CrestaTech correctly notes that “[t]he permissible verb
8 ‘may’ permits a situation in which both oscillators are active,”⁵⁵ but the word “may” works both
9 ways. In light of the specification, the word “having” in the claim does not necessarily require the
10 oscillator to actively generate a signal at all times. And because CrestaTech has made no other
11 argument as to why its products do not practice claims 1, 3, 4 and 6 of the ’146 patent,⁵⁶ the court
12 finds that it infringes those claims.⁵⁷

13 For the remaining patents, the disputes between the parties boil down to a single quarrel
14 between the parties’ experts. Specifically, Silicon Labs’ expert opines that the voltage across two
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17 ⁵⁰ *Id.* at col. 31:39-47, 32:16-25.

18 ⁵¹ Docket No. 144-5 at 26.

19 ⁵² *See id.* at 26-29.

20 ⁵³ Docket No. 1-4 at col. 31:48-50, 32:27-30.

21 ⁵⁴ *Id.* at col. 12:53-55.

22 ⁵⁵ Docket No. 160-3 at 10.

23 ⁵⁶ *See* Docket No. 144-5 at 26-29.

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25 ⁵⁷ CrestaTech raises a different argument for why it does not infringe claim 11 of the ’146 patent.
26 *See id.* at 30. Silicon Labs does not move for summary judgment on this claim, and CrestaTech’s
27 motion on the claim mentions only an analog to the claim limitation discussed here. *See* Docket
28 No. 146-20 at 22-23. For the reasons discussed above, the latter motion is denied as to claim 11.

1 input wires can constitute a single control signal.⁵⁸ CrestaTech’s expert disagrees.⁵⁹ This is a
2 classic “battle of the experts” on a material issue of fact.⁶⁰ It is the jury’s province to resolve such
3 issues, not the court’s.⁶¹

4 **Third**, Silicon Labs and CrestaTech move for partial summary judgment as to
5 CrestaTech’s obviousness⁶² and anticipation⁶³ challenges to the patents in suit.⁶⁴ Here, too, each
6 party largely attacks the opinions of its opponent’s technical expert. Almost across the board,
7 these expert opinions create genuine issues of material fact that the jury must resolve.

8 There are, however, a few exceptions. In opposing summary judgment of validity on
9 obviousness grounds, CrestaTech defends only some of the numerous obviousness combinations
10 that its expert offered.⁶⁵ At times, CrestaTech also relies on attorney argument instead of evidence
11 in the record.⁶⁶ More significantly, CrestaTech does not object to Silicon Labs’ motion as to the

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14 ⁵⁸ See Docket No. 144-4 at ¶¶ 316, 347, 360, 400, 426.

15 ⁵⁹ See Docket No. 144-5 at 32-36.

16 ⁶⁰ *MeadWestVaco Corp. v. Rexam Beauty & Closures, Inc.*, 731 F.3d 1258, 1268-69 (Fed. Cir. 2013).

17 ⁶¹ See *Regents of Univ. of Cal. v. Dako N. Am., Inc.*, Case No. 05-cv-03955-MHP, 2009 WL 1083446, at *15 (N.D. Cal. Apr. 22, 2009) (explaining that a “battle of the experts” is appropriately left to the trier of fact to resolve).

18 ⁶² See 35 U.S.C. § 103.

19 ⁶³ See *id.* § 102.

20 ⁶⁴ As indicated above, the court already has denied CrestaTech’s motion for summary judgment of
21 invalidity for indefiniteness. See Docket No. 206. Silicon Labs also moves for summary
22 judgment on CrestaTech’s double patenting defense. See Docket No. 140-3 at 9-11. The court
23 denied CrestaTech’s motion for leave to amend its invalidity contentions to add this defense, see
24 Docket No. 157, and CrestaTech has not opposed the motion with respect to double patenting.
25 The court therefore grants summary judgment on the double patenting defense.

26 ⁶⁵ Compare Docket No. 160-3 at 15-19, with Docket No. 144-7 at 35-40, apps. A-F.

27 ⁶⁶ See Docket No. 160-3 at 16-19.

1 obviousness of the '011 and '761 patents.⁶⁷ Silicon Labs' motion for summary judgment of non-
2 obviousness is granted to the extent that CrestaTech did not oppose it.

3 The motion also is granted as to several of CrestaTech's anticipation references. One such
4 reference, consisting of a Ph.D. dissertation by Jan Craninckx⁶⁸ and a book disclosing the same
5 technology by Craninckx and Michiel Steyaert,⁶⁹ teaches both discretely and continuously variable
6 capacitance circuits, but it does not combine the two as the asserted patents require. The Federal
7 Circuit "has long held that '[a]nticipation requires the presence in a single prior art disclosure of
8 all elements of a claimed invention *arranged as in the claim.*'"⁷⁰ The Craninckx reference does
9 not show such an arrangement. To the contrary, Craninckx even explains that adding "coarse
10 tuning . . . with a [discretely variable] bank of capacitors should be seriously considered" in the
11 future and refers to it as a "challenge[]" that "remain[s] open."⁷¹ CrestaTech claims that the
12 reference "teaches detailed ways to do so,"⁷² but the pages it cites contain nothing of the sort.
13 Craninckx does not anticipate the '011, '372 or '441 patents.⁷³

14 The same goes for U.S. Patent No. 4,827,226, issued to Connell in May 1989, which
15 according to CrestaTech invalidates the asserted claims of the '441 patent.⁷⁴ CrestaTech's
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17 ⁶⁷ See *id.* at 12-19.

18 ⁶⁸ See Docket No. 144-7 at 22-23; Docket No. 145-3.

19 ⁶⁹ See Docket No. 144-7 at 23-25.

20 ⁷⁰ *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008) (alteration in
21 original) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

22 ⁷¹ Docket No. 145-3 at 192, 196.

23 ⁷² Docket No. 160-3 at 21.

24 ⁷³ CrestaTech asserts that Craninckx also anticipates the '055 and '761 patents, *see* Docket No.
25 144-7 at 22-25, but Silicon Labs raises no arguments about these contentions. *See* Docket No.
26 144-3 at 17-19.

27 ⁷⁴ *See* Docket No. 144-7 at 28-29.

1 opposition to Silicon Labs’ motion relies on attorney argument⁷⁵ and differs from the opinion
2 offered by CrestaTech’s own expert.⁷⁶ That does not suffice to defeat summary judgment. On the
3 remaining references, however, the parties—and their experts—must make their cases to the jury.

4 **Fourth**, Silicon Labs moves for summary judgment of willful infringement of claim 11 of
5 the ’372 patent and of claims 1, 3, 4 and 6 of the ’146 patent. “[T]o establish willful infringement,
6 a patentee must show by clear and convincing evidence that the infringer acted despite an
7 objectively high likelihood that its actions constituted infringement of a valid patent.”⁷⁷ “If this
8 threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-
9 defined risk . . . was either known or so obvious that it should have been known to the accused
10 infringer.”⁷⁸ “When the objective prong turns on fact questions, as related, for example, to
11 anticipation, or on legal questions dependent on the underlying facts, as related, for example, to
12 questions of obviousness, the judge remains the final arbiter of whether the defense was
13 reasonable, even when the underlying fact question is sent to a jury.”⁷⁹ “[T]he court should
14 determine, ‘based on the record ultimately made in the infringement proceedings,’ whether a
15 ‘reasonable litigant could realistically expect’ those defenses to succeed.”⁸⁰ A credible invalidity
16 defense can defeat a claim of willful infringement.⁸¹

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18 ⁷⁵ See Docket No. 160-3 at 22.

19 ⁷⁶ See Docket No. 144-7 at Ex. 18.

20 ⁷⁷ *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc).

21 ⁷⁸ *Id.*

22 ⁷⁹ *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1007 (Fed. Cir.
23 2012).

24 ⁸⁰ *Id.* at 1008 (quoting *iLOR, LLC v. Google, Inc.*, 631 F.3d 1372, 1378 (Fed. Cir. 2011); *Prof’l
25 Real Estate Inv’rs, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60 (1993)).

26 ⁸¹ See, e.g., *Advanced Fiber Techs. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1377-
27 78 (Fed. Cir. 2012); *Spine Sols., Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305,
1319-20 (Fed. Cir. 2010); *TGIP, Inc. v. AT&T Corp.*, 527 F. Supp. 2d 561, 579 (E.D. Tex. 2007).

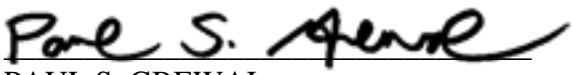
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'011 and '761 patents and any combinations for which it did not oppose summary judgment and (5) CrestaTech's anticipation defenses based on the Craninckx and Connell references.

CrestaTech's motion for summary judgment and motion to strike are DENIED in their entirety.

SO ORDERED.

Dated: March 3, 2016


PAUL S. GREWAL
United States Magistrate Judge