1
2
3
4

UNITED STATES DISTRICT COURT

5

NORTHERN DISTRICT OF CALIFORNIA

6

7

FRANCE TELECOM S.A.,

Plaintiff,

8

v.

9

MARVELL SEMICONDUCTOR INC.,

10

Defendant.

11

Case No. 12-cv-04967-WHO

ORDER DENYING PLAINTIFF'S MOTION FOR NEW TRIAL; GRANTING DEFENDANT'S MOTION FOR JUDGMENT AS A MATTER OF LAW; DENYING DEFENDANT'S MOTION FOR JUDGMENT OF INVALIDITY

12

Re: Dkt. Nos. 351, 353, 354

13

INTRODUCTION

14

A jury found defendant Marvell Semiconductor liable for direct infringement of plaintiff

15

France Telecom's U.S. patent 5,446,747 (the "'747 patent") and awarded France Telecom $1.7

16

million in damages. The jury also found Marvell Semiconductor not liable for contributory

17

infringement, inducing infringement, or willful infringement, and rejected Marvell

18

Semiconductor's invalidity defenses.

19

France Telecom moves for a new trial pursuant to Federal Rule of Civil Procedure 59(a) on

20

various grounds, none of which has merit. Dkt. No. 353. Its motion is DENIED. Marvell

21

Semiconductor moves for judgment of no infringement and invalidity as a matter of law pursuant

22

to Rule 50(b) and also moves for judgment of invalidity under Rule 52 for failure to recite patent-

23

eligible subject matter. Dkt. No. 354. Because France Telecom failed to prove that Marvell

24

Semiconductor used the claimed method in the United States, I must GRANT Marvell

25

Semiconductor's motion for judgment of no direct infringement as a matter of law. For

26

completeness, I have also considered the other arguments Marvell Semiconductor raised in its

27

motions, and find them unpersuasive.

28

BACKGROUND

The '747 patent relates to methods for correcting errors in telecommunication and other data transmissions, commonly referred to as "turbo coding." France Telecom filed suit on June 26, 2012, alleging that Marvell Semiconductor manufactures communications processors (chips) which use the method claimed in the '747 patent. Dkt. No. 1 (complaint). France Telecom alleged that the accused chips are specially adapted for use in communications devices, such as BlackBerry devices, and that use of the patented method is essential for using those devices to transmit or receive data on 3G networks.

Trial was held from September 16, 2014 to September 30, 2014. Only claim 1 of the '747 patent was at issue. The jury returned a verdict on September 30, 2014, finding Marvell Semiconductor liable for direct infringement, but not liable for contributory infringement, inducing infringement, or willful infringement. Dkt. No. 320. The jury awarded France Telecom $1.7 million in damages. *Id*. The jury rejected Marvell Semiconductor's invalidity defenses. *Id*. I heard additional testimony regarding issues not tried to the jury on October 20, 2014.

LEGAL STANDARD

Per Federal Rule of Civil Procedure 59(a)(1), the Court "may, on motion, grant a new trial on all or some of the issues." A new trial is warranted where "the verdict is contrary to the clear weight of the evidence, or is based upon evidence which is false, or to prevent, in the sound discretion of the trial court, a miscarriage of justice." *Wordtech Sys. v. Integrated Networks Solutions, Inc.,* 609 F.3d 1308, 1313 (Fed. Cir. 2010) (quoting *United States v. 4.0 Acres of Land,* 175 F.3d 1133, 1139 (9th Cir. 1999)). A judge should not grant a new trial unless he "is left with the definite and firm conviction that a mistake has been committed." *Landes Const. Co. v. Royal Bank of Canada*, 833 F.2d 1365, 1371-72 (9th Cir. 1987) (internal citations omitted).

Judgment as a matter of law under Rule 50(b) "is proper when the evidence permits only one reasonable conclusion and the conclusion is contrary to that reached by the jury." *Ostad v. Oregon Health Sciences Univ.*, 327 F.3d 876, 881 (9th Cir. 2003). I may set aside the jury verdict

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

and grant judgment as a matter of law "only if, under the governing law, there can be but one reasonable conclusion as to the verdict." *Settlegoode v. Portland Pub. Sch.*, 371 F.3d 503, 510 (9th Cir. 2004). I "must draw all reasonable inferences in favor of the nonmoving party, and [I] may not make credibility determinations or weigh the evidence." *Id*.

Rule 52 provides that, following a bench trial, "the court must find the facts specially and state its conclusions of law separately." Fed. R. Civ. P. 52(a)(1). The court must then enter judgment under Rule 58. *Id*.

DISCUSSION

I. MARVELL SEMICONDUCTOR'S MOTION FOR JUDGMENT AS A MATTER OF LAW

I address Marvell Semiconductor's Rule 50 (b) motion first because one of its arguments—that no reasonable jury could find that it used the accused method within the United States—is dispositive. After explaining why Marvell Semiconductor is correct on that issue, I discuss why its remaining arguments are not persuasive: (i) that no reasonable jury could find that the accused method infringes claim 1 of the '747 patent; (ii) that no reasonable jury could find that Alain Glavieux was properly omitted as a named inventor; and (iii) that no reasonable jury could find that the '747 patent was not invalid as obvious.

A. The jury could not have reasonably concluded that Marvell Semiconductor used the claimed method in the United States.

The jury found Marvell Semiconductor liable for direct infringement and not liable for contributory infringement or inducing infringement. Dkt. No. 320. But France Telecom did not introduce any evidence that Marvell Semiconductor used the patented method within the United States (or anywhere else). The jury's finding of direct infringement is therefore contrary to the only reasonable conclusion permitted by the evidence and Marvell Semiconductor is entitled to a directed verdict of no direct infringement. *See, e.g., Ostad*, 327 F.3d at 881 (judgment as a matter of law under Rule 50(b) "is proper when the evidence permits only one reasonable conclusion and the conclusion is contrary to that reached by the jury").

3

1   35 U.S.C. Section 271(a) governs direct infringement. It provides, in relevant part, that

2   "whoever without authority makes, uses, offers to sell, or sells any patented invention, within the

3   United States . . . any patented invention during the term of the patent therefor, infringes the

4   patent." 35 U.S.C. § 271(a). A defendant can only directly infringe a method claim, like claim 1

5   at issue here, by "using" the method within the United States, which requires that the defendant

6   practice every step of the method within the United States.[1] *See, e.g., Meyer Intellectual*

7   *Properties Ltd. v. Bodum, Inc.*, 690 F.3d 1354, 1366 (Fed. Cir. 2012) ("direct infringement of a

8   method claim requires a showing that every step of the claimed method has been practiced.");

9   *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) ("a process cannot be

10   used 'within' the United States as required by section 271(a) unless each of the steps is performed

11   within this country.").[2]

12   France Telecom presented evidence that non-party Marvell Israel conducted field testing of

13   the accused Marvell chips in several cities in the United States. The jury could reasonably

14   conclude that this testing constituted "use" of the claimed method within the meaning of 35 U.S.C.

15   Section 271(a). If Marvell Israel's conduct could be ascribed to Marvell Semiconductor, the

16   evidence could sustain the jury's verdict of direct infringement against Marvell Semiconductor.

17   Marvell Semiconductor, however, argues that Marvell Israel's conduct cannot sustain the verdict

18   because Marvell Israel is a separate entity that is not a defendant. Marvell Semiconductor also

19   argues that mere sales of communications devices, i.e., BlackBerry devices, with Marvell

---

[1] In my order on the parties' motions in *limine,* I rejected France Telecom's argument that a party can infringe a method claim by offering to sell, selling, or importing a product in which a claimed method is embodied. *See* Dkt. No. 213 at 9-10 (granting Marvell Semiconductor's motion *in limine* to preclude France Telecom from arguing that mere importation of the accused chips into the United States can be direct infringement without showing that those chips were used to perform the claimed method)

[2] In this context, the terms "method" and "process" claims are interchangeable. *See* 35 U.S.C. § 100(b) ("The term "process" means process, art or method . . . .").

4

Semiconductor chips capable of practicing the claimed method are insufficient to demonstrate that the claimed method was used by Marvell Semiconductor.

In response, France Telecom contends that Marvell Semiconductor is liable for Marvell Israel's conduct under the doctrines of ratification and agency.[3] Dkt. No. 363 at 13. But this theory was never presented to the jury and cannot sustain the verdict. No instructions were requested, and none were given, regarding Marvell Semiconductor's potential liability for Marvell Israel's conduct under agency or ratification theories, or under any other theories.[4] On the contrary, the jury was instructed that "France Telecom must prove that Marvell Semiconductor engaged in conduct within the United States that infringed the '747 patent or actively induced or contributed to infringement of the '747 patent." Dkt. No. 311 (Final Jury Instruction No. 19: Infringement—Extraterritoriality).

Consistent with that instruction, during its closing argument, France Telecom told the jury that it would need to determine whether "it is more likely than not that Marvell Semiconductor, while acting within the United States, used the method described in Claim 1 of the patent?" Tr. Vol. 10 at 1957:25-1958:4 (Dabney). France Telecom did not argue that Marvell Israel's use of the patented method could be attributed to Marvell Semiconductor under theories of agency or

---

[3] By arguing that the verdict can be sustained based on Marvell Israel's use, France Telecom implicitly concedes what is indisputable: that there was no direct evidence of use by Marvell Semiconductor.

[4] Moreover, in my ruling on summary judgment before trial, I held that Marvell Semiconductor was not liable for the conduct of a different Marvell entity under an alter-ego theory. *See* Dkt. No. 160 at 24 n.11 ("France Telecom also does not assert that Marvell [Semiconductor] should be liable under an alter-ego theory, so there is no basis for holding Marvell [Semiconductor] liable for any infringement by [Marvell Asia]"). The summary judgment order addressed damages, not use of the accused method in the United States, but it nonetheless demonstrates that France Telecom never presented a theory that Marvell Semiconductor was vicariously liable for the conduct of its non-party sister affiliates.

ratification.[5] France Telecom likewise did not discuss agency or ratification during its opening

statement and no fact or expert witnesses testified that there was an agency or ratification

relationship between Marvell Semiconductor and Marvell Israel.

Because France Telecom never presented its agency/ratification theory of direct

infringement to the jury, that theory cannot sustain the verdict of direct infringement. *See, e.g.,*

Trans-World Mfg. Corp. v. Al Nyman & Sons, Inc., 750 F.2d 1552, 1565 (Fed. Cir. 1984)

(affirming district court's determination that it was "not permitted" to "sift through the record and

find that the jury could have returned a verdict on [plaintiff's] new theory"); *Staub v. Proctor*

Hosp., 560 F.3d 647, 655-56 (7th Cir. 2009) (plaintiff waived theory not presented to jury, even if

theory was legally sound and supported by the evidence at trial: "If Staub wanted to pitch two

alternative theories at trial, he could have done so. But he chose to stick with the cat's paw, so

now it sticks with him."), *rev'd on other grounds,* 131 S.Ct. 1186 (2011); *Sinclair v. Long Island*

R.R., 985 F.2d 74, 78 (2d Cir. 1993) ("verdict for Sinclair cannot be sustained on a theory that was

never presented to the jury"); *Charles Woods Television Corp. v. Capital Cities/ABC, Inc.,* 869

F.2d 1155, 1160 n.6 (8th Cir. 1989) ("These theories, however, were not before the jury and

therefore may not provide the basis for upholding the jury verdict.") (internal quotation omitted);

see also Ramona Equip. Rental, Inc. ex rel. U.S. v. Carolina Cas. Ins. Co., 755 F.3d 1063, 1070

(9th Cir. 2014) (argument raised for first time in post-trial motion was waived); *U.S. ex rel.*

Absher v. Momence Meadows Nursing Ctr., Inc., 764 F.3d 699, 711-12 (7th Cir. 2014) ("because

the relators did not argue to the jury that Momence committed fraud by impliedly (but falsely)

certifying compliance with applicable regulations, this theory is waived on appeal").

At oral argument, counsel for France Telecom referenced *Muniauction, Inc. v. Thomson*

---

[5] I do not suggest that it would have been proper for France Telecom to present its
agency/ratification theory to the jury for the first time in its closing argument. I note merely that
the direct infringement theory France Telecom presented at closing argument was consistent with
the jury instructions and that the agency/ratification theory was never presented to the jury.

6

Corp. for the "well-settled rule that a defendant cannot thus avoid liability for direct infringement by having someone else carry out one or more of the claimed steps on its behalf." 532 F.3d 1318, 1329 (Fed. Cir. 2008) (internal quotation omitted). I take no issue with that "well-settled rule," and it is possible that Marvell Israel had an agency or ratification relationship with Marvell Semiconductor. But that possibility does not excuse France Telecom's failure to present that theory to the jury. *Muniauction* itself discussed jury instructions specific to allegations that a method claim is directly infringed by the combined actions of multiple parties, also known as joint infringement. *Id.* at 1329 (discussing jury instruction on joint infringement given by the district court). France Telecom's failure to request instructions regarding joint infringement precludes that theory, regardless of whatever merit that theory may have had.[6] At oral argument, counsel argued that France Telecom was excused from explicitly presenting its agency/ratification theory to the jury because it was "so obvious" that Marvell Israel's testing should be attributed to Marvell Semiconductor. *See* January 14, 2015 oral argument on parties' post-trial briefs. France Telecom does not cite any authority in support of its argument that a jury does not need to be instructed on "obvious" theories of liability. In any event, the cases cited above instruct that I cannot sustain the verdict on a theory never presented to the jury.

I also do not agree that Marvell Semiconductor's agency or ratification of Marvell Israel was "so obvious" that there was no need to instruct the jury on that theory. *Cf Wordtech*, 609 F.3d at 1315 (failure to instruct jury on piercing corporate veil was not harmless because "While Wordtech identified evidence that INSC did not exist or served as Defendants' alter ego, a correctly instructed jury could have concluded otherwise."). An agency relationship arises "when

---

[6] I note, however, that France Telecom's theory is that Marvell Israel performed *all* of the steps of the accused method, not that Marvell Israel and Marvell Semiconductor in combination performed all the steps. The situation here is therefore unlike that addressed in *Muniauction*. *See Muniauction*, 532 F.3d at 1329 ("The issue is thus whether the actions of at least the bidder and the auctioneer may be combined under the law so as to give rise to a finding of direct infringement by the auctioneer.").

7

1   one person (a 'principal') manifests assent to another person (an 'agent') that the agent shall act on

2   the principal's behalf and subject to the principal's control, and the agent manifests assent or

3   otherwise consents so to act." Restatement (Third) Of Agency § 1.01 (2006). Similarly, an entity

4   can only ratify an act of another if the ratifying entity is capable of acting as the other entity's

5   principal. *See* Restatement (Third) Of Agency § 4.04, cmt. (2006) ("Capacity to ratify requires

6   that the would-be ratifier have capacity to act as a principal in a relationship of agency . . . .").

7   France Telecom did not present any evidence, or argue, that Marvell Semiconductor and Marvell

8   Israel agreed that Marvell Israel would act on Marvell Semiconductor's behalf and be subject to

9   Marvell Semiconductor's control. France Telecom therefore did not establish agency or

10   ratification.

11   The cases cited by France Telecom illustrate the point, separate from the fact that none of

12   the cases involve verdicts based on theories never presented to the jury. Only *StrikeForce*

13   *Technologies, Inc. v. PhoneFactor, Inc.*, 2013 WL 6002850 (D. Del. Nov. 13, 2013), *as amended*

14   (Nov. 14, 2013), is a patent infringement case. There the court denied a motion to dismiss because

15   the plaintiff alleged that the defendant parent corporation "directed" its subsidiary's infringing

16   activities. *Id*. at *5. The plaintiff alleged that the parent and the subsidiary "operate at the same

17   location, share the same board of directors, and have the same governance policies and

18   procedures." *Id*. The court concluded that those allegations "may be insufficient to ultimately

19   succeed on agency, but it is adequate to survive a motion to dismiss at this stage in litigation." *Id*.

20   France Telecom did not argue, much less prove, that Marvell Semiconductor and Marvell Israel

21   are similarly integrated.

22   The remaining cases cited by France Telecom are factually inapposite and all involve

23   parent corporations' alleged liability for the acts of subsidiaries under their control.[7] *See Bowoto*

24

25   _____

26

27   [7] *StrikeForce Technologies*, discussed above, also involved parent and subsidiary corporations.
     2013 WL 6002850.

28   8

v. Chevron Texaco Corp., 312 F. Supp. 2d 1229, 1233 (N.D. Cal. 2004) (denying defendants' motion for summary judgment in human rights case where "[t]he facts submitted by plaintiff, taken together, are such that a reasonable juror could find that CVX and CTOP, the U.S.-based defendants, exercised more than the usual degree of direction and control which a parent exercises over its subsidiary"); *Bangkok Broad. & T.V. Co. v. IPTV Corp.*, 742 F. Supp. 2d 1101, 1120 (C.D. Cal. 2010) (denying defendant's motion for summary judgment in copyright case where plaintiff presented evidence that defendant was parent corporation and directed activities of its subsidiary); *E. & J. Gallo Winery v. EnCana Energy Servs., Inc.*, 2008 WL 2220396, at *26 (E.D. Cal. May 27, 2008) (denying *plaintiff's* motion for summary judgment that parent was liable for the conduct of its wholly-owned subsidiary in antitrust matter because "the facts adduced do not conclusively show that [parent] retained the right of control over [subsidiary]").

Unlike those cases, France Telecom did not present evidence that Marvell Semiconductor is the parent of Marvell Israel or otherwise controls or directs Marvell Israel's activities. France Telecom presented evidence that Marvell Semiconductor advertises that its products have been tested to comply with certain standards and that the testing was performed by Marvell Israel. Tr. Vol. 3 at 424:22-24, 427:1-25, 428:23-429:2 (Rothmann). But the mere fact that Marvell Semiconductor benefitted from testing performed by Marvell Israel does not establish an agency relationship, particularly as there is no evidence that Marvell Semiconductor is either the parent of or controlled or directed Marvell Israel. *Cf United States v. Bestfoods*, 524 U.S. 51, 61 (1998) ("It is a general principle of corporate law deeply ingrained in our economic and legal systems that a parent corporation (so-called because of control through ownership of another corporation's stock) is not liable for the acts of its subsidiaries.") (internal quotation omitted); *Bowoto*, 312 F. Supp. 2d at 1234 ("Only in unusual circumstances will the law permit a parent corporation to be held either directly or indirectly liable for the acts of its subsidiary.").

Separate from its agency/ratification argument, France Telecom argues that circumstantial evidence, including sales of millions of mobile handset devices with Marvell's infringing 3G turbo

9

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

encoder, "was presented at trial establishing infringing use of the accused products by third parties in the United States." Dkt. No. 363 at 17-19; *see also* Dkt. No. 363 at 16 ("Substantial Evidence Established Infringing Use *by Third Parties* in the United States) (emphasis added). France Telecom is correct that direct infringement may be proven by circumstantial evidence. However, circumstantial evidence of direct infringement by third parties, Marvell Semiconductor's customers, cannot sustain the jury's verdict here because the third parties are not defendants; only Marvell Semiconductor is a defendant. Direct infringement by third parties could have supported a finding that Marvell Semiconductor is liable for *indirect* infringement (by inducing or contributing to direct infringement by its customers) but the jury found Marvell Semiconductor not liable for indirect infringement. Dkt. No. 320 (jury verdict). Direct infringement by third parties is therefore beside the point.

The cases cited by France Telecom are illustrative. In *Lucent Technologies, Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1318 (Fed. Cir. 2009), the Federal Circuit found that circumstantial evidence was "just adequate" to permit a jury to find direct infringement by customers of the defendant, Microsoft. But Microsoft itself was liable for *indirect* infringement, not direct infringement. *Id.* at 1317 ("The jury found indirect infringement by Microsoft."). Likewise, in *Moleculon Research Corp. v. CBS, Inc.*, the court found that third parties' direct infringement was proven by circumstantial evidence, but the plaintiff's claims against the defendant, CBS, was for *indirect* infringement, i.e., inducing infringement by the third parties, its customers. 793 F.2d 1261, 1272 (Fed. Cir. 1986) ("Method claims 3–5 can be infringed only by a puzzle user. Thus, Moleculon's claim is one for inducing infringement under 35 U.S.C. § 271(b)."). Since the jury found Marvell Semiconductor liable for direct infringement, not indirect infringement, *Lucent* and *Moleculon* are inapposite.

France Telecom did not argue in its opposition brief that the jury verdict can be sustained based on substantial circumstantial evidence of direct infringement *by Marvell Semiconductor*. Assuming that that is in fact what France Telecom intended to argue, that argument is also

10

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

rejected. Marvell Semiconductor may have sold millions of units capable of practicing the accused method to its customers, but it did not sell millions of units to itself. France Telecom does not point to any evidence regarding Marvell Semiconductor, such as the number of its employees or what their activities are, much less evidence that they used the accused method. France Telecom cannot fill its evidentiary holes with speculation or assumptions regarding Marvell Semiconductor. *See, e.g., Mirror Worlds, LLC v. Apple, Inc.*, 784 F. Supp. 2d 703, 715 (E.D. Tex. 2011) ("However, direct infringement of a method claim cannot be determined on speculation, assumptions, or inferences. If it was inconceivable to Mirror Worlds that the accused features were not practiced by Apple, it should have had no difficulty in meeting its burden of proof and in introducing testimony of such use."), *aff'd,* 692 F.3d 1351 (Fed. Cir. 2012).

In addition, the jury heard evidence that a user could use a device with an accused chip on a 3G network in the United States without infringing the claimed method, for example by making a phone call, rather than sending a picture.[8] Tr. Vol. 4 at 589:2-24 (Mitzenmacher). This possible non-infringing use of the accused device further weakens any would-be circumstantial evidence of direct infringement by Marvell Semiconductor. *See ACCO Brands, Inc. v. ABA Locks Mfrs. Co.*, 501 F.3d 1307, 1313 (Fed. Cir. 2007) ("In order to prove direct infringement, a patentee must either point to specific instances of direct infringement or show that the accused device *necessarily* infringes the patent in suit.") (emphasis added).

It is one thing to find circumstantial evidence of use by a class of direct infringers such as a defendant's customers; it is a different matter to find circumstantial evidence of use by the defendant itself, particularly in the absence of evidence regarding the defendant. The cases France Telecom relies on, *Moleculon* and *Lucent*, address the former situation, not the latter. As another

---

[8] France Telecom contends that the turbo encoder in Marvell's accused 3G chips can only operate in an infringing manner. Dkt. No. 363 at 18. But France Telecom does not dispute that a device containing the accused chips can be used on a 3G network without using the turbo encoder.

11

judge in this District has observed, "where a plaintiff alleges inducement based on a defendant's

customers as a class, broader theories of liability are appropriate and the court may consider

circumstantial evidence of direct infringement." *Semiconductor Energy Lab. Co. v. Chi Mei*

Optoelectronics Corp., 531 F. Supp. 2d 1084, 1112 (N.D. Cal. 2007) (citing *Dynacore Holdings*

Corp. v. U.S. Philips Corp., 363 F.3d 1263, 1274 (Fed. Cir. 2004) ("Plaintiffs who identify an

entire category of infringers (e.g., the defendant's customers) may cast their theories of vicarious

liability more broadly, and may consequently seek damages or injunctions across the entire

category.").

Because France Telecom did not present any evidence that Marvell Semiconductor used

the claimed method in the United States, the jury's direct infringement verdict is not permitted by

the evidence and Marvell Semiconductor is entitled to a directed verdict of no direct infringement.

B. The jury could reasonably conclude that the accused method infringes claim 1 of the '747 patent.

Claim 1 of the '747 patent recites:

> A method for error-correction coding of source digital data elements, comprising the steps of:
>
>> implementing at least two independent and parallel steps of systematic convolutional coding, each of said coding steps taking account of all of said source data elements and providing parallel outputs of distinct series of coded data elements;
>>
>> and temporally interleaving said source data elements to modify the order in which said source data elements are taken into account for at least one of said coding steps.

Marvell Semiconductor contends that the jury could not have found that it infringes Claim

1 under the Court's claim construction for two reasons: (i) the accused method does not output

two or more coded data elements from each accused coding step as required by the limitation of

"each of said coding steps . . . providing parallel outputs of distinct series of coded data elements"

and (ii) the second coding step in the accused method does not output the current input data (X')

along with the coded data, as required by the limitation of "at least two independent and parallel

12

steps of systematic convolutional coding."

      1. <u>The jury could reasonably conclude that each of the coding steps of the accused method provides parallel outputs of coded data elements.</u>

The first limitation of claim 1 discloses "implementing at least two independent and parallel steps of systematic convolutional coding, each of said coding steps taking account of all of said source data elements and providing parallel outputs of distinct series of coded data elements." Neither party sought construction of the term "parallel outputs." The jury was accordingly instructed to give the term its plain and ordinary meaning to a person skilled in the art. Marvell Semiconductor now argues that the term can only mean that at least two coded data elements are output by each coding step (or encoder). Marvell Semiconductor further argues that since only one coded data element is output by each accused coding step, this limitation is not met and there can be no infringement.

I disagree. First, the jury could reasonably have concluded, as Professor Mitzenmacher testified, that the "parallel outputs" limitation requires that each coding step output a series of coded data elements which is parallel to the series of coded data elements output by the other coding step, as illustrated below by Y1 and Y2 in Figure 1 of the '747 patent. *See* Tr. Vol. 4 at 501:25-502:5 (Mitzenmacher) ("So we've seen that each step is taken into account all of the said source data elements and providing parallel outputs, a distinct series of coded data elements. In the figure that's shown as the Y1 and Y2. *The Y1 and Y2 are the coded data elements. And we can see that they are again in parallel outputs*.") (emphasis added). In other words, the jury could reasonably have concluded that "parallel outputs" requires that the output of each coding step be parallel to the output of the other coding step; not that each coding step itself outputs two or more coded data elements.
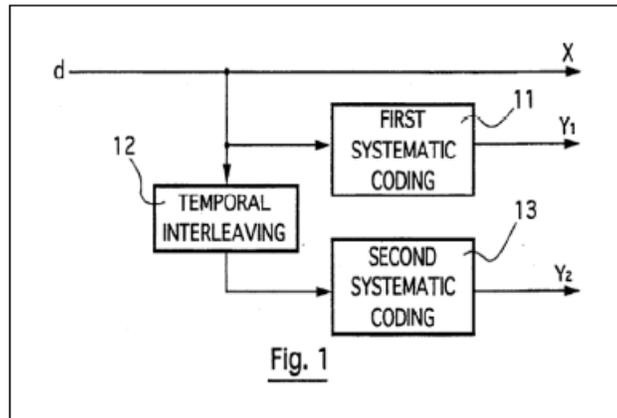
13

Fig. 1 of the '747 Patent

With that understanding, the jury could have reasonably accepted Professor Mitzenmacher's testimony that the accused method meets this limitation because each coding step provides parallel outputs of distinct series of coded data elements, as illustrated by Y and Y prime in Figure 41 below. *See* Tr. Vol. 4 at 511:6-22 (Mitzenmacher) (Q: "Could you explain your conclusion on infringement . . . ?" A: "Yes. The data comes in. Again, a copy is sent to each of the RSC encoders. And we see the parallel outputs of distinct series of coded data elements. Y and Y prime.").
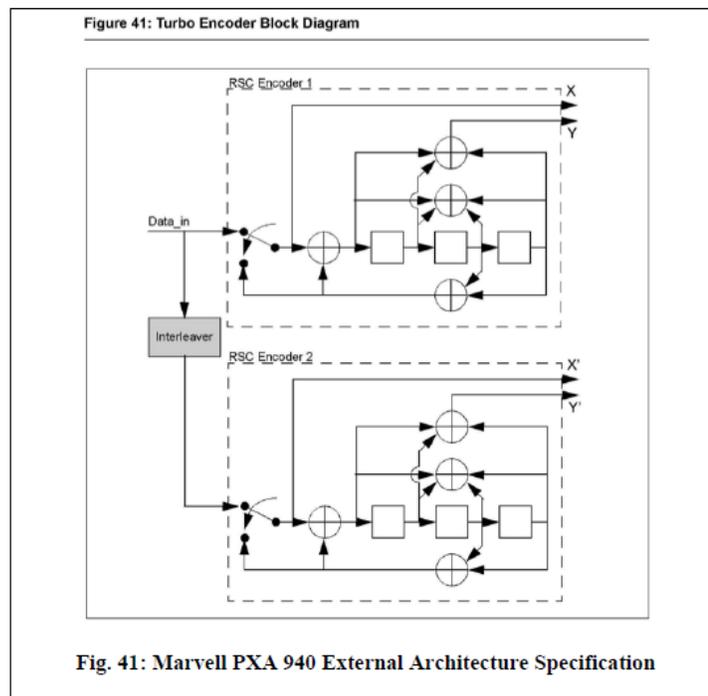

Fig. 41: Marvell PXA 940 External Architecture Specification

14

1

2   Second, Professor Mitzenmacher testified that each encoder in the accused method outputs

3   two series of coded data elements (and one uncoded data element), though he testified that only

4   the first coded output was necessary for his analysis:

5   Now, you may notice there are three outputs for each of them. We're
             only interested in the two, the ones labeled X out or Y0 out for the
6   first encoder and the second encoder. It turns out these output
             something else, a third output. That does not impact my analysis,
7   and that's because of the word "comprises" in the claim language.
             Remember you have to have at least these outputs, at least these two
8   coded outputs. You could also have extra.

9   Tr. Vol. 4 at 517:8-22 (Mitzenmacher); *see also id.* at 520:1-2 (Mitzenmacher) ("what are the

10 outputs from the RSC encoder? They're X out, Y0 out and Y1 out. These are the outputs").

11 Accordingly, even if the limitation requires that each coding step output two (or more) parallel sets

12 of coded data elements, the jury could reasonably have concluded that the accused method does

13 that based on Professor Mitzenmacher's testimony that each coding step outputs two series of data

14 elements.

15   2. <u>The jury could reasonably have concluded that the accused method implements at least
            two independent and parallel steps of systematic convolutional coding.</u>

16   I construed the claim term "systematic convolutional coding" as "convolutional coding

17 where the output includes both the coded data and the current input data." Dkt. No. 141 at 9.

18 Marvell Semiconductor argues that under this construction, the method of claim 1 yields a coding

19 rate of at least 1/4 because at least four bits are output from each one source data bit that is input

20 into the encoder, the (at least) four bits output comprising one coded bit and one uncoded bit

21 output from each of the at least two systematic convolutional coding steps. Marvell

22 Semiconductor asserts that France Telecom's infringement claim fails because the accused chips

23 use a coding rate of 1/3, meaning that the accused method only outputs three bits for every one bit

24 input, whereas claim 1 requires that at least four bits be output.

25   This was a factual dispute. I cannot conclude as a matter of law that the jury could not

26 reasonably accept France Telecom's evidence and argument and reject Marvell Semiconductor's.

27 France Telecom's technical expert, Professor Mitzenmacher, testified that RSC as used in the

28   15

depiction of the accused method in Figure 41 means "recursive systematic convolutional" and that

the two RSC Encoders in that figure are "steps of systematic convolutional coding." Tr. Vol. 4 at

505:15-25 (Mitzenmacher). Professor Mitzenmacher also testified that the two RSC Encoders in

the accused method are identical and that both output the current input data. *Id*. at 505:15-25

(Mitzenmacher) ("So the current input data is also output as well. Again, looking at the []top

coder the data comes in. And this is another branching point where a copy is passed out directly.

And here it's labeled X. In the second encoder, again, they're identical. That same things

happens. Here they label it X prime."). France Telecom also elicited testimony from Marvell

Semiconductor's technical fact witness that Marvell Semiconductor's RSC Encoders were

"identical" and "run[] in parallel." Tr. Vol. 3 at 387:24-388:3; 391:5-8; 393:3-16; 394:14-16

(Dagan). Marvell Semiconductor presented contrary evidence and argument, but I cannot

conclude that the position advanced by Marvell Semiconductor is the only reasonable one.[9]

Moreover, at trial, France Telecom distinguished between the coding rate of the coding

steps, i.e., the number of bits output by the two RSC Encoders, and the coding rate of the turbo

encoder *as a whole*, i.e. Professor Mitzenmacher testified that:

> The turbo coder operates at 1/3….[but] this is not discussing the two
> coding ste[p]s. This is discussing the turbo encoder as a whole. So
> this part is not particularly relevant to my analysis of infringement
> because it goes beyond, it's extra beyond the two coding steps that
> are the subject of the claim.

Tr. Vol. 4 at 510:5-21 (Mitzenmacher). He testified that the coding rate of the turbo encoder as a

whole (1/3) is different from the coding rate of the coding steps (1/4) because the coding steps

themselves output four data bits for each one data bit input, but after the coding steps, a selector

"select[s] from the possible outputs what the turbo encoder itself will actually output," which

---

[9] Marvell presented evidence that while the RSC Encoders' *hardware* is identical, their *operation* is not because the first RSC Encoder outputs current input data but the second RSC Encoder does not.

16

results in the encoder itself outputting three bits, rather than four.[10] *Id*. at 522:25-523:12

(Mitzenmacher); *see also id.* ("it's actually after that selector step that things get put into the

output shift register, so again, the key is that in terms of my infringement analysis, I'm looking at

the outputs of the coding steps, which do indeed include these four outputs as we've seen").

Professor Mitzenmacher's testimony was bolstered by Marvell Semiconductor's technical

fact witness's concession that there is no "switch" that "cuts off" the data being input into the

second RSC Encoder. Tr. Vol. 3 at 399:12-23) (Dagan). This concession supports France

Telecom's argument that the reason that Marvell Semiconductor's turbo encoder outputs only

three data bits, rather than four, is because the fourth data bit (the current input data from the

second RSC Encoder) is deselected *after* the coding steps, not because the second RSC Encoder

itself does not output the fourth data bit. Based on this evidence, the jury could reasonably have

concluded that the coding steps in the accused method have a coding rate of 1/4, like claim 1, even

if Marvell Semiconductor's turbo encoder, as a whole, has a coding rate of 1/3.

C. The jury could reasonably find that Alain Glavieux was properly omitted as a named inventor.

"A patent is invalid if more or less than the true inventors are named." *Trovan, Ltd. v.

Sokymat SA, Irori*, 299 F.3d 1292, 1301 (Fed. Cir. 2002) (citation omitted). "Because there is a

presumption that the inventors named on an issued patent are correct, misjoinder or nonjoinder of

inventors must be proven by facts supported by clear and convincing evidence." *Id*. (citation

omitted). Marvell Semiconductor contends that no reasonable jury could find that Alain Glavieux

was properly omitted as a named inventor on the '747 patent because "[t]he record is clear that he

made significant contributions to the alleged invention." Dkt. No. 354 at 11. Marvell

Semiconductor relies on testimony by Professor Berrou (the named inventor) that Mr. Glavieux

[10] The Court's construction of the term "systematic convolutional coding" as "convolutional coding where the output includes both the coded data and the current input data" did not address whether "output" means output from each coding step, or output from the encoder as a whole.

17

first introduced the Viterbi and BCJR decoding algorithms to him and that Mr. Glavieux was identified as a co-author in journal articles about turbo codes and as a co-inventor by France Telecom's licensing agent, Erik Johnson of Spectra Licensing.

It is undisputed that Mr. Glavieux did not invent the Viterbi algorithm; it was already known in the art. The jury could have reasonably concluded that Mr. Glavieux's suggestion that Berrou study an already-known algorithm did not make Mr. Glavieux a co-inventor. *See, e.g., Gen. Elec. Co. v. Wilkins*, 750 F.3d 1324, 1332 (Fed. Cir. 2014) ("[A] person will not be a coinventor if he or she does no more than explain to the real inventors concepts that are well known and the current state of the art.") (citation omitted) *cert. denied,* 135 S. Ct. 286 (2014). Similarly, because use of the BCJR algorithm was not part of the '747 patent itself, but improved performance of the claimed invention, the jury could reasonably have concluded that Mr. Glavieux's suggesting about the BCJR did not make him a co-inventor. Likewise, the jury heard testimony that the articles referenced by Marvell Semiconductor relate to improvements to the '747 patent, but not the initial invention claimed in the patent. *See, e.g.,* Tr. Vol. 2 at 185:7-11; 186:13-20; 196:19-197:5; 226:6-13 (Berrou). Finally, Mr. Johnson from Spectra Licensing testified that he identified Professors Berrou and Glavieux as co-inventors of the "overall technology" of turbo codes, but Professor Berrou alone invented what was disclosed in the '747 patent. Tr. Vol. 5 at 730:10-18 (Johnson) ("In this case I'm using "turbo codes" as a blanket term and to describe the overall technology. And Professor Berrou was the inventor of the initial seminal turbo code patent. He then collaborated and co-invented with Professor Glavieux on subsequent later patents related to turbo codes that are licensed for other applications."). Finally, there is no evidence that Mr. Glavieux ever claimed that he co-invented the '747 patent. Based on all of this evidence, the jury could reasonably have concluded that Mr. Glavieux was not a co-inventor of the '747 patent.

D. The jury could reasonably find that claim 1 was not invalid as obvious.

Marvell Semiconductor argues that it presented clear and convincing evidence that claim 1

18

of the '747 patent was rendered obvious by the Kasahara prior art article, alone or in combination with the Berlekamp article (for the interleaving element) and the Wang patent (for the parallel coding element). I must find that no reasonable jury could disagree with Marvell Semiconductor in order to grant Marvell Semiconductor judgment of invalidity on obviousness grounds as a matter of law. The record does not support such a finding.

France Telecom presented evidence that the Kasahara article lacks key features of the '747 patent: it does not teach sending all source data to the encoders, it does not use systematic convolutional coding, and it does not use an interleaver. Tr. Vol. 9 at 1753:17-1755:9, 1757:21-1758:7; 1761:3-5 (Mitzenmacher); Tr. Vol. 7 at 1327:10-11 (Min), Tr. Vol. 8 at 1364:24-25, 1375:25-1376:3 (Min). That is sufficient evidence for the jury to reasonably conclude that the Kasahara prior art article did not, on its own, render claim 1 obvious.

Marvell Semiconductor contends that "a person of ordinary skill in the art would combine the interleaving shown in Berlekamp with the coding method of Kasahara." Dkt. No. 354 at 15. However, Berlekamp describes interleaving generally; it does not describe interleaving on uncoded source data elements, as claim1 requires. Marvell Semiconductor did not present clear and convincing evidence that a person skilled in the art would have been motivated to combine the teachings of Berlekamp and Kasahara to achieve the claimed method. *See Bristol-Myers Squibb Co. v. Teva Pharms. USA, Inc.*, 752 F.3d 967, 973 (Fed. Cir. 2014) ("A party seeking to invalidate a patent as obvious must demonstrate by clear and convincing evidence that a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so."). Without Berlekamp, Marvell Semiconductor's combination argument fails, whether or not a person skilled in the art would also have been motivated to combine the teachings of Wang. But Marvell Semiconductor likewise did not present clear and convincing evidence that a person skilled in the art would have been motivated to combine the teachings of Wang.

19

II. MARVELL SEMICONDUCTOR'S RULE 52 MOTION FOR JUDGMENT OF INVALIDITY

Marvell Semiconductor moves for judgment under Rule 52 on the grounds that claim 1 is invalid for failing to recite patent-eligible subject matter under 35 U.S.C. Section 101.[11] This portion of the trial was tried to me, not the jury. For the reasons set forth below in my findings of fact and conclusions of law, Marvell Semiconductor's motion is DENIED.[12] *See* Fed. R. Civ. P. 52(a)(1) (following a bench trial, "the court must find the facts specially and state its conclusions of law separately").

A. Discussion

Marvell Semiconductor argues that claim 1 of the '747 fails to recite patent-eligible subject matter because it recites only a mathematical algorithm. The dispute essentially boils down to whether, as France Telecom contends, claim 1 recites a specific *application* of a mathematical algorithm, or whether, as Marvell Semiconductor contends, the supposed application is itself part of the mathematical algorithm. *See, e.g.,* Dkt. No. 354 at 25 (Marvell Semiconductor arguing that claim 1 "do[es] not require structure. Rather, this language is part of a mathematical algorithm and identifies the parameters of the calculations being performed: the inputs and outputs from the mathematical formulas for each coding step.").

---

[11] 35 U.S.C. Section 101 provides: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

[12] Before the conclusion of trial, Marvell also moved for judgment under Rule 52 that laches should bar pre-suit damages in this case, "[g]iven France Telecom's unreasonable and inexcusable delay and the evidentiary prejudice suffered by [Marvell]." Dkt. No. 292 at 23-24; *see also* Tr. Vol. 8 at 1580-81 (DeFranco) (oral argument regarding motion for judgment of laches). Marvell did not re-new its laches argument in its post-trial motion for judgment and for judgment as a matter of law under Rules 52 and 50(b), respectively. Dkt. No. 354. To the extent that Marvell did not intend to withdraw its motion for judgment of laches, that motion is DENIED. As discussed during trial, given that the parties were negotiating a resolution of the dispute from 2008, and that on Marvell's motion I limited admission of Rule 408 documents relating to these negotiations, I lack evidence from which I can conclude that France Telecom unreasonably and inexcusably delayed filing suit. *See* Tr. Vol. 8 at 1581 (Court).

20

Marvell Semiconductor moved for summary judgment on the same grounds before trial. I denied Marvell Semiconductor's motion in April 2014 on the basis that claim 1 "recite[s] an application of an abstract idea, rather than an abstract idea itself." Dkt. No. 160. I now deny Marvell Semiconductor's motion for judgment on the same grounds. My order denying Marvell Semiconductor's motion for summary judgment set forth the applicable law regarding patent-eligibility and a detailed analysis of Marvell Semiconductor's arguments.

I briefly address *Digitech Image Techs., LLC v. Electronics for Imaging, Inc.*, 758 F.3d 1344 (Fed. Cir. 2014), which was issued after my summary judgment order. In *Digitech Image*, the Federal Circuit stated that "[w]ithout additional limitations, a process that employs mathematical algorithms to manipulate existing information to generate additional information is not patent eligible." *Id*. at 1351. *Digitech Image* is inapposite because the method here *has* additional limitations: parallel encoders, an interleaver, inputting all source data in each encoder, and parallel outputs of coded data elements.[13] Accordingly, as I stated in my order denying Marvell Semiconductor's motion for summary judgment, claim 1 provides "the necessary 'substantive claim limitations beyond the mere recitation' of those concepts [of error-correction coding]." Dkt. No. 160 at 14 (internal brackets and citation omitted). I also stated that claim 1 satisfies the principle that "an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection." Dkt. No. 160 at 18 (quoting *Diamond v. Diehr*, 450 U.S. 175, 187 (1981)). *Digitech Image* reaffirmed that principle. *Digitech Image*, 758 F.3d at 1350 (quoting *Diamond*, 450 U.S. at 187).

B. Findings of fact

1. Claim 1 of the '747 Patent recites the following method:

---

[13] I reject Marvell's contention that these limitations are themselves "part of a mathematical algorithm." Dkt. No. 354 at 25. Marvell has not shown by clear and convincing evidence that this structure inheres in the mathematical algorithm itself.

A method for error-correction coding of source digital data elements, comprising the steps of:

implementing at least two independent and parallel steps of systematic convolutional coding, each of said coding steps taking account of all said source data elements and providing parallel outputs of distinct series of coded data elements;

And temporally interleaving said source data elements to modify the order in which said source data elements are taken into account for at least one of said coding steps.

'747 patent, claim 1.

2. Claim 1 recites a method for error-correction coding of source digital data elements. '747 patent, claim 1.

3. The method recited in claim 1 does not describe only a mathematical algorithm. Tr. Vol. 11 at 2155:12-15; 2158:17-21; 2160:2-2161:19 (Mitzenmacher).

4. The method recited in claim 1 provides a unique and detailed method of error correction coding with concrete steps to be applied. Tr. Vol. 11 at 2151:21-2152:3; 2160:2-25 (Mitzenmacher).

5. The method recited in claim 1 describes a particular arrangement of steps or components that form a specific structure. Tr. Vol. 11 at 2160:2-25 (Mitzenmacher).

6. The particular structural arrangement of the steps recited in claim 1 result from specific design choices rather than any abstract idea, law of nature or mathematical formula. Tr. Vol. 11 at 2161:7-19; 2179:25-2180:4 (Mitzenmacher); Tr. Vol. 10 at 2141:8-12 (Min).

7. The method recited in claim 1 includes inventive concepts that exceed the prior art. Tr. Vol. 11 at 2166:12-19; 2169:17-20; 2198:13-23 (Mitzenmacher).

8. The particular structural arrangement of the steps recited in claim 1 provide effectiveness and efficiency in the addressing the real-world phenomenon of noise in transmissions. Tr. Vol. 11 at 2151:2-2152:3; 2169:4-2170:6 (Mitzenmacher).

9. Claim 1 is confined to a specific, particularized implementation of error-correction coding. Tr. at 2161:20-2163:13 (Mitzenmacher).

10. Claim 1 does not preempt all other methods of error-correction coding or the use of a class of fundamental mathematical equations. Tr. at 2162:17-2163:16 (Mitzenmacher).

11. Claim 1 of the '747 Patent contains numerous limiting structural elements that define and narrow the scope of the claim and which give rise to the power and efficacy of the

22

claimed error-correction coding technique. '747 patent, claim 1; Tr. at 2151:1-2152:3 (Mitzenmacher).

12. Claim 1 relates to signal processing and the construction of circuits and devices for signal processing for "implementing" the method steps recited in claim 1. Tr. at 2152:14-2153:2; 2153:10-13; 2153:21-2154:3; 2154:14-19; 2155:12-15; 2155:22-2156:23 (Mitzenmacher).

13. Implementation in claim 1 relates to implementing in hardware. Tr. at 445:15-18; 455:6-12; 446:24-447:1; 456:3-6 (Berrou); Tr. at 2167:3-7; 2200:9-14 (Mitzenmacher).

14. A human being cannot perform the method recited in claim 1. Tr. at 2166:21-2168:5 (Mitzenmacher).

15. A human being can merely emulate some of the steps recited in claim 1 that are implemented by a machine. Tr. at 2166:21-2168:13 (Mitzenmacher).

16. A human being cannot emulate the step of convolutional coding on the scale necessary for transmission of data in a noise environment. Tr. at 2168:16-2169:3 (Mitzenmacher).

17. The method recited in claim 1 changes the state of the data that it is encoding. Tr. at 2164:1-11 (Mitzenmacher).

18. The method recited in claim 1 describes a particularized process for transforming source data into code words by a specific method of constructing redundant pieces of data. Tr. at 2164:1-11 (Mitzenmacher); Tr. at 2118:10-15; 2119:13-21 (Min).

19. The method recited in claim 1 describes a particularized process for transforming data into a new state that renders it better suited for transmission in settings in which there are errors due to noise. Tr. at 2164:1-11; 2198:13-23 (Mitzenmacher).

C. Conclusions of law

1. Claim 1 recites a process.

2. The process recited in claim 1 is not an abstract idea.

3. Claim 1 recites patent eligible subject matter and is valid pursuant to 35 U.S.C. § 101.

III. FRANCE TELECOM'S MOTION FOR A NEW TRIAL

France Telecom moves for a new trial, arguing that (i) I improperly excluded rebuttal evidence on infringement; (ii) I improperly excluded pre-suit correspondence between the parties

23

under Rule 408; (iii) the jury's $1.7 million award was not supported by the evidence; and (iv) I improperly excluded rebuttal evidence on damages.[14] None of these arguments has merit.

A. The order limiting rebuttal evidence does not warrant a new trial.

In my preliminary instructions to the jury, I said that "France Telecom will also have the option to put on what's referred to as rebuttal evidence as to any evidence offered by Marvel Semiconductor of non-infringement or lack of willfulness." Dkt. No. 267 at 29. France Telecom contends that I abused my discretion when I precluded it from offering rebuttal evidence on two theories of non-infringement that Marvell Semiconductor's technical expert, Professor Min, purportedly first disclosed during Marvell Semiconductor's case-in-chief: (1) that lines 478 to 483 contain the "important" portion of the source code supporting Professor Min's non-infringement opinion; and (2) that the particular placement of a comma in the text of claim 1 of the '747 patent forms the basis of Professor Min's opinion that the accused products do not provide parallel outputs of distinct series of coded data elements, as required by claim 1.

Contrary to France Telecom's argument, Professor Min's testimony was not based on new theories, and therefore did not warrant rebuttal evidence. Had Marvell Semiconductor introduced truly new non-infringement or lack-of-willfulness theories, I would have allowed France Telecom the opportunity to present rebuttal evidence, as I instructed the jury. As I stated during the trial, the purportedly new theories raised by Professor Min had already been fully addressed in the parties' direct and cross-examinations. Tr. Vol. 9 at 1627:12-13 (Court) ("Source code, I think the source code and the comma issue are ones that, in a variety of ways, have been dealt with.").

1. <u>Professor Min's testimony regarding the "important part" of the source code</u>
Professor Min provided the following testimony:

---

[14] France Telecom moves to file portions of its motion for a new trial under seal. Dkt. No. 353. A redacted version of the brief has been filed. Dkt. No. 352. France Telecom's motion to seal is GRANTED.

1

2

Q. What does that source code tell you about whether X'[15] is output during the encoding phase?

3

A. X' is not output during the encoding process.

4

Q. How do you know that?

5

6

A. It takes a little bit of digging through, but the source code, actual code itself, the important part here is starting from line [478] to 483.

7

Tr. Vol. 7 at 1304:10-24 (Min).

8

It is undisputed that Professor Min's expert report disclosed his opinion that the accused

9

products did not infringe because X' was not output.[16] Professor Min's non-infringement theory

10

presented at trial was therefore not new and did not warrant rebuttal. Nor does his testimony that

11

lines 478 to 483 of the source code are the "important part." During France Telecom's case-in-

12

chief, France Telecom's technical expert, Professor Mitzenmacher, testified that the source code

13

indicated that X prime *was* output, contrary to Professor Min's opinion. *See* Tr. Vol. 4 at 517:8-14

14

(Mitzenmacher) ("and line 663 to 665 for the second encoder, those are the outputs. . . . They're

15

labeled . . . RSC 1X, RSC 1Y[0], and RSC 1Y1 for the second encoder"), 518:3-5 (Mitzenmacher)

16

("The X out for the second encoder corresponds to the X prime you see in Figure 41."). France

17

Telecom elected not to object to Professor Min's testimony as beyond the scope of his report,

18

choosing to instead address it on cross-examination. *See* Tr. Vol. 9 at 1624:24-1625:1 (LoBue)

19

("Now, the reason I didn't object is because, quite frankly, it was favorable to us that he's now

20

relying on stuff that wasn't in his report."). On cross-examination, France Telecom elicited

21

Professor Min's concession that he had not disclosed that lines 478 to 483 are the "important part"

22

of the source code, or discussed those lines at all, in his report. Tr. Vol. 8 at 1440:16-1442:18

23

(Min). Having presented evidence that the source code indicates that X prime is output, contrary

24

25

_____

26

[15] The symbol X' is sometimes referred to as X prime in the trial testimony and in this order.

27

[16] France Telecom never deposed Dr. Min about the opinions expressed in his expert report.

28

to Professor Min's opinion, and having elicited Professor Min's testimony that he did not discuss

lines 478 to 483 in his report, there was no need for further rebuttal.

2. <u>Professor Min's testimony regarding the placement of a comma in claim 1</u>

Claim 1 reads, in relevant part:

> A method for error-correction coding of source digital data elements, comprising the steps of:
>
>> Implementing at least two independent and parallel steps of systematic convolutional coding, each of said coding steps taking account of all of said source data elements and providing parallel outputs of distinct series of coded data elements; ...

On cross-examination, Professor Min testified that the presence of a comma after the

phrase "implementing at least two independent and parallel steps of systematic convolutional

coding" but not after the phrase "each of said coding steps taking 4 account of all of said source

data elements," means that the phrase "and providing parallel outputs of distinct series of coded

data elements" applies to "each of said coding steps" rather than "implementing at least two

independent and parallel steps of systematic convolutional coding." Tr. Vol. 8 at 1456-1458

(Min). According to Professor Min, each of the independent coding steps must therefore produce

separate parallel outputs, resulting in four total coded elements output.

France Telecom contends that it should have been afforded an opportunity to rebut

Professor Min's testimony regarding the comma. I disagree. Professor Min stated in his expert

report that "[i]f only one coded data bit is output at a time per constituent encoder, each coding

step cannot 'provid[e] parallel outputs of distinct series of coded data elements' as required by a

plain reading of the claim." Dkt. No. 365 at 8. Accordingly, France Telecom was well aware of

Professor Min's opinion that, under the plain reading of the claim language, "parallel outputs"

requires that more than one coded data bit is output by each encoder. This was not a new theory

that France Telecom could wait to address on rebuttal. Rather, France Telecom had the burden, in

its case-in-chief, to prove that this limitation was met by the accused products, fully aware of

Professor Min's contrary opinion, as expressed in his report, that the accused method did not meet

26

the plain reading of the limitation.[17]

     Finally, the asserted errors were harmless. France Telecom vigorously contested Professor Min's opinions and persuaded the jury to find direct infringement. I allowed France Telecom to present other rebuttal testimony and acted well within my authority to preclude the remainder. *See Rent-A-Ctr., Inc. v. Canyon Television & Appliance Rental, Inc.*, 944 F.2d 597, 601 (9th Cir. 1991) ("The district court has broad discretion in deciding what constitutes proper rebuttal evidence"); *United States v. Johnson*, 618 F.2d 60, 62 (9th Cir. 1980) ("Trial management is, as it must be, within the spacious discretion of the trial judge.").

B. The Court properly excluded communications subject to Rule 408.

     Repeating arguments that it made during trial, France Telecom contends that I erred in

---

[17] While Dr. Min stated that his opinion was based on a "plain reading" of the claim, he did not discuss the placement of the comma in his expert report. But there is no requirement that experts disclose the grammatical bases for their "plain reading" of claim language; that is what "plain language" means. It is sufficient that he disclosed that, in his opinion, the "plain reading" of the claim language requires that more than one coded data bit is output by each encoder.

27

precluding certain correspondence between the parties under Federal Rule of Evidence 408.[18] France Telecom contends that the documents were not subject to Rule 408 because they reflect licensing discussions, not negotiations of a disputed claim. France Telecom also argues that even if the documents were subject to Rule 408, the documents were admissible to show Marvell Semiconductor's knowledge that its products infringed the '747 patent and that selling those products would induce others to infringe.

The documents were properly excluded. France Telecom does not present any new arguments and I will not repeat my reasoning, which I discussed at length during trial and in my written opinion. The documents were subject to Rule 408 and therefore could not be admitted "to prove or disprove the validity or amount of a disputed claim." Dkt. No. 259 (quoting Fed. R. Evid. 408(a)).

I note, however, that I ruled that documents could be admitted "for other purposes, including 'negating a contention of undue delay.'" Dkt. No. 259 (quoting Fed. R. Evid. 408(b)).

---

[18] Federal Rule of Evidence 408 provides:

> (a) Prohibited Uses. Evidence of the following is not admissible--on behalf of any party--either to prove or disprove the validity or amount of a disputed claim or to impeach by a prior inconsistent statement or a contradiction:
>
>> (1) furnishing, promising, or offering--or accepting, promising to accept, or offering to accept--a valuable consideration in compromising or attempting to compromise the claim; and
>>
>> (2) conduct or a statement made during compromise negotiations about the claim--except when offered in a criminal case and when the negotiations related to a claim by a public office in the exercise of its regulatory, investigative, or enforcement authority.
>
> (b) Exceptions. The court may admit this evidence for another purpose, such as proving a witness's bias or prejudice, negating a contention of undue delay, or proving an effort to obstruct a criminal investigation or prosecution.

28

As I explained,

> The documents may be admitted to show the existence of discussions between the parties. The jury is entitled to know that France Telecom notified Marvell in August 2008 that it believed that Marvell was infringing the '747 patent and that the parties negotiated thereafter prior to suit. This evidence is relevant for France Telecom to rebut Marvell's laches defense, is relevant to France Telecom's willfulness allegation, and is appropriately admitted under Rule 408. However, the substance of the discussions, including proposed terms and the parties' respective positions, may not be admitted. Such evidence relates to the validity or amount of France Telecom's infringement claim and is not admissible under Rule 408.

Id. Consistent with that ruling, the initial letter from France Telecom to Marvell Semiconductor (TX 120A) was admitted to show Marvell Semiconductor's knowledge of the '747 patent. In addition, France Telecom's licensing agent, Erik Johnson, testified regarding his communications, on behalf of France Telecom, with Marvell Semiconductor. Tr. Vol. 5 at 726:5-14 (Johnson) (testifying that he contacted Marvell Semiconductor about taking a license to the '747 patent in August 2008 and discussing Exhibit 120A). The jury accordingly had evidence from which it could conclude that Marvell Semiconductor knew that its products infringed the '747 patent and that selling those products would induce or contribute to infringement.

C. The jury's award of $1.7 in damages does not require a new damages trial.

The jury's award of $1.7 million in damages was supported by substantial evidence. Marvell Semiconductor's damages expert, Julie Davis, testified that in her opinion Marvell Semiconductor should pay France Telecom no more than $1.7 million, assuming that the '747 patent was valid and infringed. Tr. Vol. 8 at 1480:11-18 (Davis). She testified that her opinion was based on France Telecom's five lump sum licenses with other 3G chip makers, adjusted to reflect that the hypothetical agreement between France Telecom and Marvell Semiconductor related only to use of the '747 patent in the United States, whereas the other lump sum licenses covered additional patents and were world-wide. *Id.* at 1497-1498. Ms. Davis also discussed the various *Georgia-Pacific* factors, including France Telecom's attempts to license the '747 patent and licenses paid by Marvell Semiconductor. *Id.* at 1528-1532. France Telecom disagrees with

Ms. Davis's opinion, but the jury apparently accepted it. I cannot conclude that the jury's

determination was contrary to the clear weight of the evidence.[19]

France Telecom also argues that I improperly admitted evidence regarding actual sales,

i.e., the "book of wisdom." I previously rejected this argument in my order denying France

Telecom's motion *in limine* to preclude Ms. Davis from relying on *ex post* facts as part of her

reasonable royalty opinion. As I stated,

> *Georgia-Pacific* factor #11 is "[t]he extent to which the infringer
> used the invention and any evidence probative of the value of that
> use." Accordingly, Marvell is free to argue, based on actual use of
> the patented method (i.e., the "book of wisdom"), that a running
> royalty would not exceed a certain amount. *See, e.g., Lucent
> Technologies, Inc. v. Gateway, Inc*., 580 F.3d 1301, 1333-34 (Fed.
> Cir. 2009) ("Consideration of evidence of usage after infringement
> started can, under appropriate circumstances, be helpful to the jury
> and the court in assessing whether a royalty is reasonable. . . . This
> quantitative information, assuming it meets admissibility
> requirements, ought to be given its proper weight, as determined by
> the circumstances of each case."). But this is only one of several
> relevant factors in the reasonable royalty inquiry; France Telecom
> will have the opportunity to attack this opinion at trial and to
> emphasize other factors.

Dkt. No. 213 at 2. France Telecom presents no arguments that warrant revisiting the issue here.

D. The Court did not improperly preclude France Telecom from rebutting Marvell Semiconductor's damages case.

France Telecom argues that I improperly precluded Marvell Semiconductor from

presenting rebuttal testimony in support of its running royalty calculations of €3.9 and €2.4

million which, France Telecom asserts, was intended "to establish the unreasonableness of

[Marvell Semiconductor damages expert] Ms. Davis's proposed damage award of $1.7M." Dkt.

No. 352 at 25.

I disagree. France Telecom made a conscious decision not to present evidence regarding

---

[19] Because the jury's damage award was supported by substantial evidence, had France Telecom proved infringement, I would decline France Telecom's request that I increase the damage award under 35 U.S.C. Section 284.

its €3.9 and €2.4 million running royalty theories in its case-in-chief, even though its damages

expert, Professor Bradford Cornell, disclosed those theories in his expert report. *See, e.g.,* Tr. Vol.

6 at 981:17-19 (Cornell) ("Well, actually, I have [running royalty analyses] in my report. I didn't

do it here in the courtroom. In my report I have some running royalty calculations that I see as

effectively ex post."). Moreover, during his cross-examination, Professor Cornell testified

repeatedly that he had produced running royalty calculations of €3.9 and €2.4 million as

alternatives to his €7.5 million lump sum royalty opinion. *See, e.g., id.* at 982:8-983:10, 990:12-

22, 1038:2-24 (Cornell). He testified that those figures were based on actual sales of the accused

chips in the United States. *Id*. at 1038. Professor Cornell also testified that he considered each of

the *Georgia-Pacific* factors when calculating these running royalty figures. *Id*. at 1041:5-13. The

jury accordingly heard evidence of France Telecom's €3.9 and €2.4 million damage theories

during France Telecom's case-in-chief. France Telecom apparently decided not to pursue the

matter further on re-direct.

On rebuttal, after Ms. Davis presented Marvell Semiconductor's damages case, Professor

Cornell testified at length that he disagreed with the "haircut" that Ms. Davis applied to France

Telecom's usual lump sum royalty to account for the limited geographic scope of Marvell

Semiconductor's use of the accused method, one of the justifications Ms. Davis offered for her

$1.7 million damages theory. Tr. Vol. 9 at 1740:6-25, 1742:12-1744:25 (Cornell). He also

testified, on rebuttal, that if he assumed that "all the cards were on the table" during the

hypothetical negotiation, as Ms. Davis did, then €7.5 million lump sum would be the appropriate

royalty. *Id*. at 1745:1-16.

Accordingly, even though France Telecom elected not to discuss its own damage expert's

running royalty theories in its case-in-chief, the jury heard testimony about those theories when

Marvell Semiconductor elicited that testimony on cross-examination. France Telecom's damages

expert then explained, on rebuttal, why he thought the running royalty theory offered by Marvell

Semiconductor's damages expert was wrong. In light of the above, I did not improperly preclude

31

Marvell Semiconductor from presenting rebuttal testimony in support of its running royalty theories.

CONCLUSION[20]

France Telecom's motion for a new trial pursuant to Federal Rule of Civil Procedure 59(a) is DENIED. Dkt. No. 352. France Telecom's motion to seal is GRANTED. Dkt. No. 353.

Marvell Semiconductor's motion for judgment as a matter of law pursuant to Rule 50(b) is GRANTED on the grounds that no reasonable jury could conclude that Marvell Semiconductor used the claimed method in the United States. Dkt. No. 354. Marvell Semiconductor's motion for judgment as a matter of law is DENIED in all other respects. Marvell Semiconductor's motion for judgment of invalidity under Rule 52 is DENIED. *Id*.

IT IS SO ORDERED.

Dated: March 2, 2015
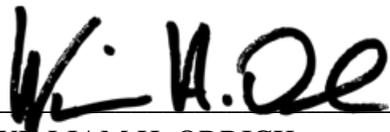
WILLIAM H. ORRICK
United States District Judge

---

[20] The parties dispute whether France Telecom is entitled to prejudgment interest. The issue is moot since I grant Marvell Semiconductor's motion for judgment as a matter of law. However, I conclude that France Telecom would have been entitled to prejudgment had it proven infringement. 35 U.S.C. Section 284 requires a court to "fix" interest after a finding of infringement. While a court has some discretion in setting prejudgment interest, "prejudgment interest should ordinarily be awarded." *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655 (1983). The Supreme Court explained that "[i]n the typical case an award of prejudgment interest is necessary to ensure that the patent owner is placed in as good a position as he would have been in had the infringer entered into a reasonable royalty agreement." *Id*. It may be appropriate to limit or deny prejudgment interest where the patent owner has been responsible for "undue delay in prosecuting the lawsuit." *Id*. Marvell Semiconductor argues that prejudgment interest is not warranted due to France Telecom's delay in filing suit. However, as discussed above, I do not find that France Telecom unduly delayed in filing suit. France Telecom would therefore be entitled to pretrial interest from November 2008, the date Marvell Semiconductor first offered 3G chips 3G for sale in the United States. Marvell Semiconductor contends that prejudgment interest since November 2008 is $86,827. France Telecom does not dispute this figure (I reject France Telecom's argument that it is entitled to prejudgment interest from the time Marvel Semiconductor acquired Intel's communications processor assets).

32