

**NONCONFIDENTIAL**

2013-1519

---

**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**

---

SAMSUNG ELECTRONICS CO., LTD and SAMSUNG  
TELECOMMUNICATIONS AMERICA, LLC,

Appellants,

v.

INTERNATIONAL TRADE COMMISSION,

Appellee,

and

APPLE, INC.

Intervenor.

---

On Appeal from the United States International Trade Commission  
Investigation No. 337-TA-794

---

**APPELLANTS' REPLY BRIEF**

---

Charles K. Verhoeven  
QUINN EMANUEL URQUHART  
& SULLIVAN, LLP  
50 California St., 22<sup>nd</sup> Floor  
San Francisco, CA 94111  
(415) 875-6600

Kevin P. Johnson  
Victoria F. Maroulis  
QUINN EMANUEL URQUHART  
& SULLIVAN, LLP  
555 Twin Dolphin Dr., 5<sup>th</sup> Floor  
Redwood Shores, CA 94065  
(650) 801-5000

Alan L. Whitehurst  
Derek L. Shaffer  
Marissa R. Ducca  
QUINN EMANUEL URQUHART  
& SULLIVAN, LLP  
1299 Pennsylvania Ave, NW #825  
Washington D.C. 20004  
(202-538-8109)

Thomas D. Pease  
QUINN EMANUEL URQUHART  
& SULLIVAN, LLP  
51 Madison Ave., 22<sup>nd</sup> Floor  
New York, New York 10010  
(212) 849-7000

*Attorneys for Appellants Samsung  
Electronics Co., Ltd. and Samsung  
Telecommunications America, LLC*

**CERTIFICATE OF INTEREST**

Counsel for Appellants certifies the following:

**1. The full name of every party or amicus represented by me is:**

Samsung Electronics Co., Ltd., and Samsung Telecommunications America, LLC

**2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:**

N/A

**3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:**

Samsung Telecommunications America, LLC (“STA”) is a wholly-owned subsidiary of Samsung Electronics America, Inc. (“SEA”), which is a wholly-owned subsidiary of Samsung Electronics Co., Ltd. (“SEC”). SEC is not owned by any parent corporation and no other publicly held corporation owns 10% or more of its stock. No other publicly held corporation owns 10% or more of STA’s stock.

**4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or are expected to appear in this court are:**

Quinn Emanuel Urquhart & Sullivan, LLP: William Adams, Anthony Alden, Carl Anderson, Wayne Alexander, Robert Becher, Marc Becker, Albert Bedecarre,

Kristen Bird, Todd Briggs, Paul Brinkman, Margret Caruso, Jon Cederberg, John D'Amato, Marissa Ducca, David Elsberg, Susan Estrich, Michael Fazio, Ryan Goldstein, John Gordon, Gabriel Gross, Eric Huang, Diane Hutnyan, Kevin Johnson, Rachel Kassabian, Scott Kidman, Alex Lasher, Duane Lyons, Victoria Maroulis, Joseph Milowic, Randa Osman, Thomas Pease, William Price, B. Dylan Proctor, John Quinn, Sascha Rand, Derek L. Shaffer, Patrick Shields, Jon Steiger, Kathleen Sullivan, Amar Thakur, Charles Verhoeven, Eric Wall, Matthew Warren, Scott Watson, Alan Whitehurst, Robert Wilson, Michael Zeller, Melissa Dalziel, Sahily Feliciano, Peter Klivans, Scott Florance, Jessica Hon, Lily Lu, Christopher Price, Jessica Rose, Daniel Volkmuth, Marc Weinstein, Bruce Zisser, Anne Abramowitz, Deepa Acharya, Jolie Apicella, Brett Arnold, Joseph Ashby, Abhishek Bapna, Katharine Barach, Christopher Barker, Charles Basinger, Alex Baxter, Adam J. (AJ) Bedel, Adam Bedel, Karen Bobrow, Heather Belville McCarthy, Alex Binder, Kara Borden, Jason Calabro, Adam S. Cashman, Melissa Chan, Keunwoo Choi, Samantha Crane, David Currie, Derek Doherty, Samuel Drezdson, Guy Eddon, Patrick Fitch, Brad Goldberg, Augustus Golden, Michael Gray, Ron Hagiz, Scott Hall, Claire Hausman, David Hecht, Ulana Holubec, Alexander Hu, Sara Jenkins, Shaina Johnson, Rachel Juarez, James Judah, Jordan Kaericher, Aaron Kaufman, Sung Hoon Kim, Jason Lake, Valerie Lozano, Roxanna Manuel, Joseph Martin, Geneva McDaniel, Mary McNeill, Lauren

Misztal, Anna Neill, Gopi Panchapakesan, Nila Parndigamage, Michael Peng, Ketan Petal, Daniel Posner, Maxim Price, James Razick, Dane Reinstedt, Shahin Rezvani, Robert Rogoyski, David Rudolph, Michael Sadowitz, Jason Schaengold, Patrick Schmidt, David Shaul, Stephen Smith, Christopher Stretch, Nathan Sun, Derek Tang, Mark Tung, Curran Walker, James Ward, Thomas Watson, James Webster, Kelly Winslow, Anthony Zappin, James Kim, Paul Lee, Peter Park, D. Frederick Sparks, Min Yu.

Steptoe and Johnson, LLP: Charles F. Schill, Jamie B. Beaber, Tiffany A. Miller, Stephanie Schonewald, Paul Gennari, Amanda Adams, Paul McAdams, John Caracappa, Thomas Pasternak, Huan-Yi Lin, Elizabeth Johnson, Paul Lall.

Williams and Connolly LLP: Samuel Bryant Davidoff, Stanley E. Fisher, Ari S. Zymelman, Kevin Hardy

Sheppard Mullin Richter & Hampton LLP: Gary L. Halling, Mona Solouki, David R. Garcia

Hopenfeld Singer Rice & Saito LLP: Benjamin L. Singer, Marina N. Saito

Dated: February 18, 2014

Respectfully submitted,

By: /s/ Charles K. Verhoeven  
Charles K. Verhoeven  
QUINN EMANUEL URQUHART  
& SULLIVAN, LLP  
50 California Street, 22<sup>nd</sup> Floor  
San Francisco, CA 94111  
Telephone: (415) 875-6600  
Facsimile: (415) 875-6700  
charlesverhoeven@quinnemanuel.com  
*Attorney for Appellants Samsung  
Electronics Co., Ltd. and Samsung  
Telecommunications America, LLC*

**TABLE OF CONTENTS**

	<b><u>Page</u></b>
I. INTRODUCTION .....	1
II. THE COMMISSION ERRED IN ITS TREATMENT OF THE [[REDACTED]] ISSUES.....	1
A. Dr. Min’s Cross-Examination Cannot Support the Commission’s Noninfringement Finding.....	1
B. The Other Arguments Are Unavailing .....	5
C. Samsung Was Harmed by the Commission’s Repeated Evidentiary Errors .....	7
D. Samsung Did Not Waive Its Claim Construction Arguments for “Extracting” .....	8
III. APPLE’S ALTERNATIVE GROUNDS HAVE NO MERIT .....	9
A. Samsung Did Not Waive Any Arguments .....	10
B. The Commission Properly Concluded That [[REDACTED]] [[REDACTED]] “Outputting the Control Information by Checking the UE-ID Specific CRC” .....	10
C. The Named Inventors Are the True Inventors of the ‘644 Patent.....	11
1. Siemens Did Not Invent the ‘644 Subject Matter.....	11
2. The ‘644 Inventors Could Not Have Learned about the Invention from Siemens .....	13
D. The ‘644 Inventors Did Not Engage in Standards-Setting Abuse .....	13
E. The ‘644 Inventors Did Not Commit Inequitable Conduct .....	21
F. The ‘644 Patent Is Not Exhausted.....	22
G. An Exclusion Order Is the Proper Remedy for Apple’s Failure to License the ‘644 Patent .....	27

CONCLUSION.....30

Material has been deleted from pages v, 1-11, 13, 15, 22-29 of the Non-Confidential Appellants' Reply Brief. This material is deemed confidential business information pursuant to 19 U.S.C. § 1337(n) and 19 C.F.R. § 210.5, and pursuant to the Protective Order entered August 4, 2011. The material omitted from these pages contains confidential deposition and hearing testimony, confidential business information, and confidential patent application information of Samsung, Apple, third party Intel, and third party Qualcomm.

**TABLE OF AUTHORITIES**

<b><u>Cases</u></b>	<b><u>Page</u></b>
<i>Apple Inc. v. Motorola, Inc.</i> , 869 F. Supp. 2d 901 (N.D. Ill. 2012).....	29
<i>Boesch v. Graff</i> , 133 U.S. 697 (1890).....	25
<i>Cornell Research Found., Inc. v. Hewlett-Packard Co.</i> , No. 5:01-cv-1974, 2007 WL 4349135 (N.D.N.Y. Jan. 31, 2007).....	26
<i>Fuji Photo Film Co., Ltd. v. Jazz Photo Corp.</i> , 394 F.3d 1368 (Fed. Cir. 2005) .....	24
<i>Fujifilm Corp. v. Benun</i> , 605 F.3d 1366 (Fed. Cir. 2010) .....	24
<i>Gambro Lundia AB v. Baxter Healthcare Corp.</i> , 110 F.3d 1573 (Fed. Cir. 1997) .....	11
<i>In re Hotels.com, L.P.</i> , 573 F.3d 1300 (Fed. Cir. 2009) .....	9
<i>Kirtsaeng v. John Wiley &amp; Sons, Inc.</i> , 133 S. Ct. 1351 (2013).....	24, 25
<i>Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.</i> , No. 2:10-cv-216-JRG, 2013 WL 4054915 (E.D. Tex. Aug. 6, 2013).....	26
<i>LaserDynamics, Inc. v. Quanta Storage Am., Inc.</i> , No. 2:06-CV-348-TJW-CE, 2009 WL 3763444 (E.D. Tex. June 29, 2009) .....	24
<i>Litecubes, LLC v. N. Light Prods., Inc.</i> , 523 F.3d 1353 (Fed. Cir. 2008) .....	25
<i>MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.</i> , 420 F.3d 1369 (Fed. Cir. 2005) .....	25
<i>MedImmune, LLC v. PDL BioPharma, Inc.</i> , No. 08-cv-5590, 2011 WL 61191 (N.D. Cal. Jan. 7, 2011) .....	24

*Minebea Co., Ltd. v. Papst*,  
444 F. Supp. 2d 68 (D.D.C. 2006).....26

*Ninestar Tech. Co., Ltd. v. Int'l Trade Comm'n*,  
133 S. Ct. 1656 (2013).....25

*Ninestar Tech. Co., Ltd. v. Int'l Trade Comm'n*,  
667 F.3d 1373 (Fed. Cir. 2012) .....23, 25

*Qualcomm Inc. v. Broadcom Corp.*,  
548 F.3d 1004 (Fed. Cir. 2008) .....18, 19, 20

*Qualcomm Inc. v. Broadcom Corp.*,  
539 F. Supp. 2d 1214 (S.D. Cal. 2007).....18

*Rambus Inc. v. Infineon Techs. AG*,  
318 F.3d 1081 (Fed. Cir. 2003) .....15, 20

*Tessera, Inc. v. Int'l Trade Comm'n* ,  
646 F.3d 1357 (Fed. Cir. 2011) .....24

*Therasense, Inc. v. Becton, Dickinson & Co.*,  
649 F.3d 1276 (Fed. Cir. 2011) .....21

*Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*,  
617 F.3d 1296 (Fed. Cir. 2010) .....25

**Statutes**

19 U.S.C. § 1337 .....30

**TABLE OF ABBREVIATIONS**

A_____	The cited page(s) of the Joint Appendix
AG	Absolute Grant
ALJ	Administrative Law Judge
Commission	United States International Trade Commission
CRC	Cyclic Redundancy Check
DI	Domestic Industry
HSUPA	High-Speed Uplink Packet Access
ID	Initial Determination (A187-830)
Node B	Base Station
Section 337/ §337	19 U.S.C. § 1337
UE	User Equipment
UMTS	Universal Mobile Telecommunication System
Asserted Claims	Claims 9 and 13 of U.S. Patent No. 7,486,644
'644 Patent	U.S. Patent No. 7,486,644 (A5894-5914)

## **I. INTRODUCTION**

As stated in Samsung's opening brief, the Commission's noninfringement finding for the '644 Patent is unsupported by the record and is contrary to the proper interpretation of the claims. When Dr. Min's testimony is considered in its entirety, the Accused Products indisputably [[REDACTED]] In fact, it would be impossible [[REDACTED]] not to occur. Because the Commission erred both legally and factually, its finding of noninfringement should be reversed.

Rather than focus on noninfringement, Apple takes a shotgun approach, appealing virtually every issue it lost below. Apple contends no substantial evidence supports the Commission's rulings, even where the issues were highly factual and Apple had the burden of clear and convincing evidence. As demonstrated below, Apple's appeal lacks merit.

## **II. THE COMMISSION ERRED IN ITS TREATMENT OF THE [[REDACTED]] ISSUES**

### **A. Dr. Min's Cross-Examination Cannot Support the Commission's Noninfringement Finding**

The Commission committed reversible error by: (1) applying an incorrect construction to the claims that excludes [[REDACTED]]  
[[REDACTED]]; and/or (2) misinterpreting 34 lines of testimony contrary to the substantial evidence.

Because of discovery sanctions, Apple's expert could not testify regarding [[REDACTED]] and Samsung's expert accordingly did not address that issue on direct. A3554-55, A10836:14-22. Therefore, the only evidence that could possibly support the noninfringement finding was Dr. Min's cross-examination. On direct, Dr. Min testified that the Accused Products [[REDACTED]] A11276:25-81:20. He never "gave up," "surrendered," "shifted," or otherwise strayed from that testimony on cross. Instead he affirmed that the Accused Products [[REDACTED]] [[REDACTED]] A11302:20-24. When pressed to admit that the Accused Products [[REDACTED]] [[REDACTED]] Dr. Min carefully explained that the Accused Products [[REDACTED]] [[REDACTED]] A11302:20-A11303:15. The fact that the Accused Products also [[REDACTED]] does not change the fact that they [[REDACTED]]

During the Investigation, Apple did not dispute that the Accused Products [[REDACTED]] The Commission was the first to contend that the accused products [[REDACTED]] A94-95. There is nothing in the record, however, to support the Commission's position. As demonstrated below, Dr. Min unwaveringly testified that the Accused Products [[REDACTED]] [[REDACTED]] A11302:6-03:15.

<b>Dr. Min's Cross Examination</b>	<b>Proper Reading of Cross Examination</b>
[[ [REDACTED] [REDACTED]	[REDACTED]
[REDACTED] [REDACTED]	[REDACTED]
[REDACTED] [REDACTED]	[REDACTED]
[REDACTED] [REDACTED]	[REDACTED]
[REDACTED] [REDACTED] [REDACTED] [REDACTED]	[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

<b>Dr. Min's Cross Examination</b>	<b>Proper Reading of Cross Examination</b>
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Dr. Min's Cross Examination	Proper Reading of Cross Examination
<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>
<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p>[REDACTED]]</p>

Contrary to the Commission's noninfringement finding, Dr. Min did not shift or surrender anything. He consistently testified that the Accused Products [[REDACTED]] and then [[REDACTED]]

**B. The Other Arguments Are Unavailing**

Nothing else in the record can save the Commission's finding. Attempting to frame the argument as factual, not legal, the Commission contends that a [[REDACTED]]

[REDACTED]] Mr.

CONFIDENTIAL  
MATERIAL OMITTED

Hillebrand.<sup>1</sup> Commission Br. at 45-46. The Commission argues the [[REDACTED]]  
[[REDACTED]] – but cites  
no evidence for this new conclusory argument. *Id.* A [[REDACTED]]  
[[REDACTED]] It does not change the fact that the  
[[REDACTED]]  
[[REDACTED]] still applies.

The Hillebrand testimony confirms Dr. Min’s testimony [[REDACTED]]  
[[REDACTED]]  
without discussion of the [[REDACTED]] Dr. Min is the *only* expert to testify  
about this issue, explaining that [[REDACTED]]  
[[REDACTED]]  
A11271:13-88:6. The Hillebrand testimony does not state that the [[REDACTED]]  
[[REDACTED]] Nor did Mr. Hillebrand testify that the  
Accused Products [[REDACTED]]  
[[REDACTED]], as the Commission contends (*see*  
Commission Br. at 43-44). A11058:24-59:6.

---

<sup>1</sup> Mr. Hillebrand testified only with regard to [[REDACTED]]  
[[REDACTED]]

Finally, the Commission incorrectly contends that neither Samsung nor Dr. Min identified the source code that [[REDACTED]] See Commission Br. at 45. The source code and Dr. Min's associated testimony are identified in Samsung's brief at 23-30. See also A05508-05512; A07782-85; A10752:11-53:10; A10769:13-70:20; A10771:13-73:23; A10805:1-807:1-20; A10810:10-12; A15008-19; A15092-94; A15148-50. When Dr. Min testified he could not point to source code that [[REDACTED]]  
[[REDACTED]] A11302:13-24. This understanding is confirmed by Dr. Min's prior testimony regarding the source code. See, e.g., A10752:11-53:10; A10769:13-70:20; A10771:13-73:23; A10805:1-807:1-20; A10810:10-12.

### **C. Samsung Was Harmed by the Commission's Repeated Evidentiary Errors**

The Commission committed clear error when it did not overturn the ALJ's decisions to: (1) preclude Samsung from offering expert testimony to rebut Apple's late-disclosed non-infringement arguments; (2) allow Apple to cross-examine Dr. Min on those subjects; and (3) preclude Samsung from offering doctrine of equivalents opinions regarding the very subject matter on which the ALJ permitted cross-examination. The cases the Commission cites are not applicable here and do not support the proposition that doctrine of equivalents must be raised in direct.

The ALJ's Order 86 and his statements during the Hearing confirmed that: (1) if Samsung did not open the door to the [REDACTED] issues, the ALJ would not permit Apple to cross-examine Dr. Min; and (2) if the door were opened, Dr. Min would be permitted to respond to the late-disclosed arguments. Although Samsung relied on this, carefully avoiding eliciting testimony concerning [REDACTED] Apple was inexplicably permitted to cross Dr. Min on that issue. When Samsung attempted to address this issue on redirect, it was precluded from doing so. A10834:16-36:13.

Samsung was unfairly prejudiced by Apple's failure to disclose its [REDACTED] non-infringement arguments and the ALJ's decision to allow Apple to cross-examine Dr. Min on that issue without permitting Samsung to introduce the testimony, including opinions on DOE, that it would have elicited from Dr. Min on direct had it known that defense was in play. Although the ALJ purported to sanction Apple by precluding the [REDACTED] testimony, it was Samsung that was prejudiced when Apple was allowed to introduce that testimony and Samsung was not permitted to respond.

**D. Samsung Did Not Waive Its Claim Construction Arguments for "Extracting"**

Apple and the Commission incorrectly assert waiver as to the proper construction of "extracting a 60-bit rate-matched block." Commission Br. at 33-34; Apple Br. at 43. To the contrary, Samsung consistently asserted that this

phrase should be given its plain and ordinary meaning, and that it should not preclude additional steps, which is the precise argument made here on Appeal. A05251-55.

The construction of this claim element did not become an issue until the ALJ found noninfringement by improperly interpreting the claims [[REDACTED]] despite the use of the open-ended term, “comprising.” Samsung consequently raised this issue in its Petition for Review. A05251-55. The Commission Opinion, unlike the Initial Determination, focused specifically on the term “extracting,” alone. A00093-96. In response to the Commission’s request for the proper construction of “extracting,” Samsung proposed “processing to obtain or derive,” which Samsung continues to believe is the proper construction, should that term need construction.<sup>2</sup> A05502-08. The inquiry Samsung raises in this appeal is whether the Commission’s construction excludes the additional steps of [[REDACTED]] regardless of the words used in the construction. This is the same argument Samsung made throughout the Investigation.

### **III. APPLE’S ALTERNATIVE GROUNDS HAVE NO MERIT**

Apple takes a shotgun approach, raising numerous new issues for which it had the burden of proof at the ITC. Apple identifies no sound basis for the Federal

---

<sup>2</sup> How the Commission concluded Samsung’s proposed construction would cover “inserting” (Commission Br. at 38) is unclear, as the terms “processing” and “processing *to obtain or derive*” in no way imply insertion. *Id.*

Circuit to overturn the Commission’s findings on these issues, and indeed, it should not.

For many issues, Apple faced an elevated clear and convincing burden of proof, and now faces an even higher standard of review on appeal. *See In re Hotels.com, L.P.*, 573 F.3d 1300, 1302 (Fed. Cir. 2009) (“the review for support by substantial evidence must take this heightened burden into account”).

**A. Samsung Did Not Waive Any Arguments**

Apple incorrectly argues Samsung waived arguments by failing to appeal the ALJ’s finding of noninfringement for the claim terms “generating 90 coded bits by rate-dematching the rate matched block,” and “decoding the coded bits at a coding rate of 1/3.” Notably, the Commission makes no such argument. In fact, these issues are addressed on pages 52-54 of Appellants’ brief. Once the claims are properly construed and the facts properly applied, those limitations are also met.

**B. The Commission Properly Concluded That [REDACTED] [REDACTED] “Outputting the Control Information by Checking the UE-ID Specific CRC”**

Apple incorrectly argues the Commission improperly [REDACTED] [REDACTED] in the limitation “outputting the control information by checking the UE-ID Specific CRC.” The Commission correctly found that the ALJ erred in his analysis in light of Samsung’s briefing on the subject. A05255-5257. As the Commission concluded, [REDACTED] [REDACTED]

[[REDACTED]] A0098. The [[REDACTED]]  
[[REDACTED]]  
[[REDACTED]] *Id.* [[REDACTED]]  
[[REDACTED]]. Moreover, the claims and specification do not support Apple's new (and hence, waived) argument that the specification supports checking a *masked* CRC. *See* A4467-68 (failing to argue the specification requires checking a masked CRC); A5255-57; A6012 (8:5-9) (describing demasking occurring before checking). As the Commission correctly found, [[REDACTED]] A00098.

### **C. The Named Inventors Are the True Inventors of the '644 Patent**

Apple concedes that derivation requires proof by clear and convincing evidence that Siemens both: 1) conceived of the invention before Samsung; and 2) communicated that invention to Samsung. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F. 3d 1573, 1576 (Fed. Cir. 1997). Neither prong is met.

#### **1. Siemens Did Not Invent the '644 Subject Matter**

Apple argues that the Commission erred by finding Siemens did not invent the claimed subject matter of the '644 Patent based on its conclusion that Siemens did not know the claimed *identical* rate matching pattern. Apple contends it need only have proved that the invention was obvious. Apple is incorrect, as the Commission explicitly found the invention was not obvious. A00099-101.

Apple ignores the fact that the ALJ and Commission considered and rejected these arguments. A0011-101; A00523-545. Notably, the Commission stated: “We conclude that the inventions disclosed in the Siemens references are not the same as the invention in the ’644 Patent, for the reasons discussed above in connection with Apple’s obviousness contentions.” A00101; *see also* evidence showing nonobviousness: A00099-100; A04205-4209; A15445-15449; A10312:10-15; A13034:1-10; A13029:16-32:5; A13038:7-39:7; A14229 (Siemens proposal stating “rate matching pattern needs to be clarified,” showing that Siemens could not develop the pattern developed by the ’644 inventors). The Commission further found “*not only*” was the rate matching pattern not derived by Siemens, “but there is evidence that Siemens had actually tried and failed to develop an optimal rate-matching pattern for use in E-AGCH transmissions.” A00101.

Moreover, the Commission and ALJ conducted a thorough obviousness analysis with respect to the same references Apple now cites and concluded the ’644 Patent was not obvious, a finding Apple does not appeal. A00099-100; A00545-559. Indeed, the Commission found the claims were not obvious for “at least” two reasons: 1) the Siemens’ proposal was directed to encoding scheduling grant information at a base station; and 2) the rate-matching pattern was not

present. *Id.* Finally, Apple admits there are other elements of the claim, such as a “6-bit absolute grant” not present in the cited art. Apple Br. at 50 n.12.

**2. The ‘644 Inventors Could Not Have Learned about the Invention from Siemens**

Apple’s assertion that there is “no dispute that Siemens disclosed its inventive ideas to the named inventors” is unsupported. Samsung set forth, and the ALJ and Commission considered, all of the reasons why Siemens could not and did not communicate the invention to Samsung. A0100-101; A00523-545. The proposals Apple cites did not even relate to the ‘644 invention. *Id.* Moreover, the inventors [[REDACTED]] to arrive at the ‘644 invention themselves. *Id.*; A04209-212; A10288:4-292:15; A10312:10-15, A10375:4-7.

**D. The ‘644 Inventors Did Not Engage in Standards-Setting Abuse**

The Commission properly held Apple failed to meet its burden of proving its equitable defenses of implied waiver, unclean hands, and estoppel. Recognizing that accepted legal and equitable doctrines for unenforceability require proof of intentional bad faith conduct – which does not exist here – Apple invents a new defense with no grounding in any statute or common law rule: unenforceability based on alleged “standard-setting violations.” That defense is contrary to this Court’s precedent and, as presented, is at odds with ETSI’s policies and the practices of its members. Apple mischaracterizes the applicable disclosure

obligations, misstates the facts concerning Samsung's IPR disclosures, and ignores the more than 30 licenses Samsung entered into with respect to its declared essential patents, as well as Samsung's repeated attempts to license Apple to those patents, including on terms better than Apple itself said were FRAND. Apple's novel unenforceability defense should be rejected.

Apple contends the '644 Patent should have been held unenforceable because the inventors urged the 3GPP working group to adopt their rate matching pattern over a competing Motorola proposal without disclosing that Samsung allegedly had patent applications covering that pattern. Apple Br. at 32, 56-57. This argument is unavailing.

First, Apple introduced no evidence that the confidential Korean patent applications pending at the time of the proposals<sup>3</sup> contained a single claim that should have led Samsung to conclude that one or more of these applications might be essential if the proposals were adopted, let alone that Samsung actually made such a determination and nevertheless failed to disclose those applications. Apple did not put the Korean patent applications in evidence and its own expert, Dr. Michael Walker, then Chair of the ETSI Board, did not bother to review them. A11429.

---

<sup>3</sup> Apple fails to mention that neither the '644 Patent nor any underlying U.S. application even **existed** at the time of standardization.

Apple's position appears to be that because Samsung later decided to submit to ETSI an IPR declaration form disclosing numerous patents and applications including those in the family of the '644 Patent, Samsung must have recognized at the earlier time when the proposals were pending that the original Korean patent applications might be essential to those standards and opted not to disclose them. Apple Br. at 55-57. Apple offers no evidence to support this speculative assertion.<sup>4</sup> Indeed, Dr. Walker admitted that "without having looked at the actual claims of the Korean patent applications," he could not "say for sure whether anyone at Samsung had attempted to claim the subject matter that is now, in [his] view, essential or likely to be essential to the UMTS standard." A11432.<sup>5</sup> See *Rambus Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1105 (Fed. Cir. 2003) (finding no breach of disclosure duty where patentee had no pending patent applications during standardization period that covered standard).

Second, although Apple asserts Samsung was required to disclose pending Korean patent applications to the 3GPP working group before its proposals were

---

<sup>4</sup> Apple offered no evidence that any of the Korean patent applications had been published or otherwise lost their confidential status at the time the proposals were pending such that they might be "IPRs" within the meaning of the ETSI IPR Policy. A15872 ("For the avoidance of doubt rights relating to get-up, confidential information, trade secrets or the like are excluded from the definition of IPR.").

<sup>5</sup> Even now, Apple [REDACTED] that supposedly rendered the patents essential for disclosure purposes.

adopted, the ETSI IPR Policy does not require disclosure to 3GPP; such disclosures are to be made to ETSI. A15869[Cl.4.1]; A14239. Dr. Walker recognized this, conceding that in his 25 years of experience, he could not recall a single participant in a 3GPP technical meeting “ever having made a declaration about an IPR in a submission.” A11414-15. In any event, ETSI’s own documents demonstrate that 3GPP technical meetings are not an appropriate place to discuss IPR. A15885[Cl.4.1].

The ETSI IPR Policy does not require disclosure of an IPR “before” a related proposal is adopted without regard to facts and circumstances, and Apple offered no evidence that any member of ETSI had ever interpreted the policy that way. The policy requires members to “use [] *reasonable endeavours to timely inform* ETSI of ESSENTIAL IPRs [they] *become[] aware of*. In particular, a MEMBER submitting a technical proposal for a STANDARD shall, *on a bona fide basis*, draw the attention of ETSI to any of that MEMBER’s IPR which might be ESSENTIAL *if that proposal is adopted*.” A15869[Cl.4.1].

Apple’s interpretation ignores the language requiring “reasonable endeavors” with respect to IPRs that the member has “become aware” are essential or might become essential “if that proposal is adopted,” not to mention the “bona fide basis” language. The word “before” does not even appear in the policy, and it was undisputed that ETSI, a consensus-driven body, had never been able to agree

on a definition of “timely.” A15878. As Dr. Walker conceded, ETSI only “provides guidelines” for disclosure and expects companies to make “reasonable endeavours” to disclose IPRs. A11408-09. Dr. Walker further admitted that ETSI’s rules do not sanction any member for an untimely disclosure unless it arises from “intentional delay,” and that he could not recall *any* instances in which ETSI took action against a member for untimely disclosure of an IPR. A11405-406.<sup>6</sup>

Apple made no attempt to show that Samsung failed to use “reasonable endeavors to timely inform” ETSI of the Korean patent applications underlying the ’644 Patent or that it otherwise failed to disclose those applications on a bona fide basis. Apple also offered no evidence that the Korean patent applications were in fact essential or that anyone at Samsung with authority for making IPR declarations thought they were at the relevant times.

Although Dr. Walker acknowledged IPR declarations must be signed by executives with power to bind their companies (A11411-12; A15472) and that several layers of management may exist between engineers at technical meetings

---

<sup>6</sup> Dr. Walker testified that the ETSI IPR Policy “suggests that [disclosure] has to happen before the proposal is actually adopted.” A11363. Although Apple attempts to twist this “suggestion” into a categorical rule (Apple Br. at 56), Apple conceded that Dr. Walker is not an expert on law, let alone the French law that governs the ETSI IPR Policy (A00729; A11397-99), and thus waived any argument that his analysis of the policy should override its plain meaning as well as the undisputed evidence of how members interpret that policy. A11315; A11397-98.

and those executives (A11413-14), Apple introduced no evidence regarding the reasonableness of Samsung's internal procedures for declaring IPRs, particularly during the 26-day window between Samsung's submission of the proposal Apple contends "relates" to the '644 Patent and its adoption. A04312.

Third, Apple has not identified any legal or equitable doctrine that would require a tribunal to automatically render a patent unenforceable as a result of such a violation and, as the Commission concluded, failed to prove "any recognized affirmative defenses" such as equitable estoppel, laches, or fraud. A00066.

Apple relies primarily on *Qualcomm Inc. v. Broadcom Corp.*, 548 F.3d 1004, 1012 (Fed. Cir. 2008), in which this Court held the district court had not abused its discretion in holding patents unenforceable under the doctrine of implied waiver where the patent owner had executed a "*carefully orchestrated plan*" with "deadly determination . . . to achieve its goal of *holding hostage the entire industry* desiring to practice the H.264 standard by insulating its IPR from the JVT." *Id.* at 1009-10 (emphasis added); *see also Qualcomm Inc. v. Broadcom Corp.*, 539 F. Supp. 2d 1214, 1227-49 (S.D. Cal. 2007). Indeed, the Court found the patent owner had intentionally concealed its participation in the JVT standards body during the development of the H.264 standard through false testimony and misconduct by counsel. *Id.* at 1009-10. The Court then determined that this

“intentional” concealment of patents induced a reasonable belief that the patent owner did not intend to later enforce any existing patent rights. *Id.* at 1020-21.

Apple’s assertion that the facts of this case are more “egregious” than that of *Broadcom* is astonishing. For one, the IPR policies and disclosure requirements for JVT—the standards body at issue in *Broadcom*—are markedly different from ETSI’s. JVT requires “royalty-free” standards and members must attach IPR disclosure forms to their technical proposals. *Broadcom*, 548 F.3d at 1012 n.2. Unlike JVT, ETSI does not require this and “seeks a balance between the needs of standardization for public use . . . and the rights of the owners of IPRs” and specifically states as a policy objective that “IPR holders . . . should be adequately and fairly rewarded for the use of their IPRs in the implementation of standards.” A15869. Not only are royalty-bearing licenses on FRAND terms and conditions an expected and desired result of the ETSI standardization process, but participants are prohibited from discussing IPR issues, including whether a proposal is encumbered, during technical meetings. A15876[Cl.1.4]; A15885[Cl.4.1].<sup>7</sup>

Apple offers no evidence of any intentional, bad faith conduct by Samsung, let alone a carefully orchestrated plan to hold hostage the members of the

---

<sup>7</sup> Apple's suggestion that ETSI would have adopted a different potentially royalty-free technical proposal had it known that Samsung had filed the patent applications underlying the '644 Patent is both unsupported and contrary to the undisputed way ETSI works.

telecommunications industry wishing to practice the ETSI UMTS standard. Dr. Walker admitted he was not accusing Samsung of “intentionally delaying” disclosure and was not offering the opinion that Samsung’s conduct constituted a “Violation” of the policy as defined in Section 14. A11403-04; A11418. Indeed, neither ETSI, nor any ETSI member (including Apple), had ever objected to the timeliness of Samsung’s or any other member’s IPR disclosures pursuant to ETSI’s IPR Policy, including with respect to the ’644 Patent family. A15872[Cl.14]; A15886[Cl.4.3].

Moreover, Apple did not dispute that: 1) in 1998, Samsung had declared to ETSI that it was prepared to grant FRAND licenses under any patents that might be essential to the UMTS standard; 2) Samsung later submitted declarations making the same pledge for the ’644 and ’348 families of patents (A15472-88); and 3) Samsung had voluntarily licensed its declared essential patents to more than 30 companies including close competitors (A00084; A14086) and had repeatedly offered to license Apple under them (A00071-77; A14082-86; A14144; A14147-49).

Such actions are fundamentally at odds with any plan to hold the industry hostage, like that of *Broadcom* or *Rambus*, and properly led the Commission to conclude Samsung’s conduct did not warrant the draconian sanction of unenforceability. In doing so, the Commission did not abuse its discretion.

As for Apple's citation of testimony from Mr. Lee as evidence of an alleged company policy to delay disclosure of essential IPR (Apple Br. at 55), Apple failed to reveal that Mr. Lee explained: "When the standard is not determined, you cannot know if the patent is essential or not." A16708. Mr. Lee's testimony reflects the obvious difficulty that companies have in ascertaining whether a particular patent application is likely to be essential when prosecution is ongoing and the standard is changing (A11429-31), and given the expected avoidance of over-declaration. Apple offered no evidence that anyone at Samsung, including Mr. Lee, recognized that one or more of the Korean patent applications underlying the '644 Patent contained a claim that might be essential if a specific Samsung proposal were adopted, particularly during the 26-day window when those proposals were pending. A11391-95; A15966; A16110. The remaining evidence Apple cites underscores that Samsung sought to develop high quality technologies, consistent with the stated goals of the ETSI IPR Policy. A15591-92; A16350-51; A15869[Cl.3.1].

**E. The '644 Inventors Did Not Commit Inequitable Conduct**

Apple argues that the '644 Patent should be held unenforceable for inequitable conduct because the inventors allegedly failed to disclose certain references to the patent office. Apple Br. at 59-62. But Apple does not come close to meeting the "but for" materiality standard of *Therasense*, particularly when the

alleged Commission error is analyzed for substantial evidence. *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1291 (Fed. Cir. 2011) (*en banc*). Apple never argued that the cited references anticipated the claims, and both the ALJ and the Commission rejected the assertion that the cited references render the claims obvious. *See* A00099-100; A00523-545; Sec. C, *supra*. This is far from the level of materiality necessary to show that “but for” the fact that the cited references were not before the patent office, the patent would not have issued.

Nor can Apple show that the Commission’s finding of no “intent” was wrong because, as Samsung showed, there is *no evidence* of any intent to deceive the PTO. A4215-16; A10293:3-16; A10305:13-18. The Commission’s failure to discuss specific evidence is not error when none of the evidence Apple cites shows intent to deceive the PTO. At best, the evidence cited by Apple shows that the ’644 inventors considered information available to them, and realized that the state of the art required advancements – the advancements the ’644 inventors described.

#### **F. The ’644 Patent Is Not Exhausted**

The Commission correctly determined that Samsung’s rights in the ’644 Patent were not exhausted through Samsung’s [[REDACTED]] because Apple introduced no evidence [[REDACTED]]



CONFIDENTIAL  
MATERIAL OMITTED

Apple's patent exhaustion defense also fails because Apple [[REDACTED]]  
[[REDACTED]] as this Court recently confirmed is  
required. *Ninestar Tech. Co., Ltd. v. Int'l Trade Comm'n*, 667 F.3d 1373, 1378  
(Fed. Cir. 2012). [[REDACTED]]  
[[REDACTED]]  
[[REDACTED]]  
[[REDACTED]] A10985-1003.

Apple's argument that [[REDACTED]] eliminates the  
territoriality restriction is contrary to law. This Court has held that "foreign sales  
can *never* occur under a United States patent." *Fuji Photo Film Co., Ltd. v. Jazz  
Photo Corp*, 394 F.3d 1368, 1376 (Fed. Cir. 2005) (no suggestion of exception for  
[[REDACTED]]). A foreign sale does not implicate a United States patent  
because infringing uses "must occur in the country where the patent is  
enforceable." *Fujifilm Corp. v. Benun*, 605 F.3d 1366, 1372 (Fed. Cir. 2010).  
Contrary to Apple's assertions, *Tessera, Inc. v. Int'l Trade Comm'n* does not hold

---

[[REDACTED]] A15626[C1.3.7]. [REDACTED]  
[[REDACTED]] A15630[C1.7.12]. Apple's  
sole witness on this issue professed no knowledge of any details of [[REDACTED]]  
[[REDACTED]] A10993-95.

otherwise – territoriality was not disputed in that case. 646 F.3d 1357, 1371-72 (Fed. Cir. 2011).<sup>10</sup>

Nor did the Supreme Court’s holding in *Kirtsaeng v. John Wiley & Sons, Inc.*, 133 S. Ct. 1351 (2013), eliminate the territoriality requirement for patent exhaustion. *Kirtsaeng* only related to the first sale doctrine in copyright law. *Id.* at 1355-57. The Supreme Court found that the statutory language and history of the relevant law did not require territoriality, based in part on the fact that the common law first sale doctrine for copyrights did not consider geographic location of sale. *Id.* at 1363-64. Patent exhaustion, in contrast, has always required a sale within the United States. *See Boesch v. Graff*, 133 U.S. 697, 703 (1890). Notably, the Supreme Court declined the opportunity to review this Court’s holding in *Ninestar* and eliminate the territoriality requirement for patent exhaustion. *Ninestar Tech. Co., Ltd. v. Int’l Trade Comm’n*, 133 S. Ct. 1656 (2013).

Apple’s claim that [[REDACTED]

]] is also without merit. Apple cites no case where [[REDACTED]

---

<sup>10</sup> Numerous district courts have interpreted this Court’s holdings to establish a strict territoriality requirement even in the face of [[REDACTED]]. *E.g.*, *LaserDynamics, Inc. v. Quanta Storage Am., Inc.*, No. 2:06-CV-348-TJW-CE, 2009 WL 3763444, at \*1 (E.D. Tex. June 29, 2009), *rev’d on other grounds*, 693 F.3d 51 (Fed. Cir. 2012); *MedImmune, LLC v. PDL BioPharma, Inc.*, No. 08-cv-5590, 2011 WL 61191, at \*17 n.13 (N.D. Cal. Jan. 7, 2011). To the extent the district court cases Apple cites suggest a contrary result, they are not binding on this Court.

[REDACTED]] without more, qualified as a sale within the United States.<sup>11</sup> Rather, this Court has consistently found that “essential activities” include contracting *and* performance. *E.g.*, *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1310 (Fed. Cir. 2010); *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.*, 420 F.3d 1369, 1377 (Fed. Cir. 2005). District courts have interpreted these holdings to mean that a sale is *not* within the United States when a product is shipped from and delivered to locations outside of the United States. *Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, No. 2:10-cv-216-JRG, 2013 WL 4054915, at \*3 (E.D. Tex. Aug. 6, 2013); *Cornell Research Found., Inc. v. Hewlett-Packard Co.*, No. 5:01-cv-1974, 2007 WL 4349135, at \*51 (N.D.N.Y. Jan. 31, 2007); *Minebea Co., Ltd. v. Papst*, 444 F. Supp. 2d 68, 146 (D.D.C. 2006).

Here, it is undisputed that [[REDACTED]

[REDACTED]

[REDACTED]]

A10985-1003; A14135-38. Furthermore, [[REDACTED]

[REDACTED]

[REDACTED]

---

<sup>11</sup> *Litecubes, LLC v. N. Light Prods., Inc.*, 523 F.3d 1353, 1370-71 (Fed. Cir. 2008), merely held that components need not be *supplied* from the United States. There was no dispute that delivery occurred in the United States.

[REDACTED]

[REDACTED]

A10993-99. Based on these facts, the Commission properly concluded that

[REDACTED]

**G. An Exclusion Order Is the Proper Remedy for Apple’s Failure to License the ’644 Patent**

The Commission properly rejected Apple’s claims that Samsung’s commitment to standards-setting organizations precluded an exclusionary remedy for the ’644 Patent. As the Commission noted, Apple identified no *per se* rule barring the ITC from issuing an exclusion order on a FRAND-encumbered patent. A00064-66. In particular, the Commission noted that ETSI’s IPR policy does not prohibit patent owners from seeking injunctive relief, and that several attempts to add such language have failed. A00065-66; A11450-51.

Although Samsung does not dispute that exclusionary relief ought to be a last resort when declared essential patents are asserted, it cannot be the case that an accused infringer can avoid the ITC’s statutory mandate by simply raising FRAND concerns while refusing to “engage in an impartial and honest Essential IPR licensing negotiation process,” as ETSI expects of its members. A15886. As described below, that is exactly what the Commission concluded Apple did here.

Apple’s citation to opinions from other courts denying injunctions on FRAND-encumbered patents have no bearing on the Commission’s determination.



[REDACTED]

A00077; A14082-86; A14144; A14147-49.

Apple's rejection of license terms that it previously suggested were FRAND, combined with its refusal to make a counteroffer or otherwise reasonably engage in further licensing negotiations, confirms that Apple is not negotiating in good faith, and does not intend to license Samsung's patents unless compelled to do so. A00080-81. It was this inexplicable unwillingness to license on *any* terms that prompted the Commission to characterize Apple's approach as "reverse patent holdup" in which "an implementer utilizes declared-essential technology without compensation to the patent owner under the guise that the patent owner's offers to license were not fair or reasonable." A00081. Even Apple's cases agree that exclusionary relief is appropriate in these circumstances. *See Apple, Inc. v. Motorola, Inc.*, 869 F. Supp. 2d 901, 914 (N.D. Ill. 2012).

Unable to demonstrate that Samsung is not entitled to exclusionary relief as a matter of law, Apple contends that a remand with respect to the '644 Patent would be futile because the USTR would likely veto an exclusion order if granted, as it did for Samsung's '348 Patent. As an initial matter, Apple cannot ask this Court to usurp the function of the executive to conduct policy evaluations of Commission determinations by denying relief that is otherwise appropriate under

the ITC's statutory mandate and this Court's precedent. Moreover, Apple overstates the USTR's position with respect to the '348 Patent.

The USTR did not conclude that exclusion orders are never appropriate for declared essential patents; rather, the USTR stated that "whether public interest considerations counsel against a particular exclusion order *depends on the specific circumstances at issue*," such as the infringer's refusal to take a FRAND license. A05999 (emphasis added). The USTR's disapproval of the '348 Patent exclusion order was based on the lack of "a comprehensive factual record" and "explicit findings" regarding issues such as "the presence or absence of patent hold-up or reverse hold-up." A06000. Any deficiencies in the record or the Commission's findings can be easily addressed on remand, allowing the USTR to confirm that standards-related concerns have been adequately considered, and that any issued exclusion order will not implicate public policy concerns.

### **CONCLUSION**

Samsung respectfully requests that the Commission's Final Determination that Apple did not violate Section 337 with respect to the '644 Patent be reversed. Alternatively, Samsung respectfully requests that the Investigation be remanded so that Samsung can offer evidence it was prevented from offering during the Investigation.

Dated: February 18, 2014

Respectfully submitted,

/s/ Charles K. Verhoeven

QUINN EMANUEL URQUHART &  
SULLIVAN, LLP

Charles K. Verhoeven

charlesverhoeven@quinnemanuel.com  
50 California Street, 22nd Floor  
San Francisco, CA 94111  
Telephone: (415) 875-6600  
Facsimile: (415) 875-6700

Kathleen M. Sullivan

kathleensullivan@quinnemanuel.com  
Thomas Pease  
thomaspease@quinnemanuel.com

William Adams

williamadams@quinnemanuel.com  
51 Madison Ave., 22<sup>nd</sup> Floor  
New York, New York 10010  
Telephone: (212) 849-7000  
Facsimile: (212) 849-7100

Paul F. Brinkman

paulbrinkman@quinnemanuel.com  
Alan L. Whitehurst  
alanwhitehurst@quinnemanuel.com

S. Alex Lasher

alexlasher@quinnemanuel.com

Derek Shaffer

derekshaffer@quinnemanuel.com  
Marissa R. Ducca  
marissaducca@quinnemanuel.com  
1299 Pennsylvania Ave. NW, Ste. 825  
Washington D.C. 20004  
Telephone: (202) 538-8000  
Facsimile: (202) 538-8100

Kevin P.B. Johnson

kevinjohnson@quinnemanuel.com

Victoria F. Maroulis

victoriamaroulis@quinnemanuel.com

555 Twin Dolphin Drive, 5<sup>th</sup> Floor

Redwood Shores, CA 94065

Telephone: (650) 801-5000

Facsimile: (650) 801-5100

Robert J. Becher

robertbecher@quinnemanuel.com

865 S. Figueroa St., 10<sup>th</sup> Floor

Los Angeles, CA 90017

Telephone: (213) 443-3000

Facsimile: (213) 443-3100

*Counsel for Samsung Electronics Co., Ltd.  
and Samsung Telecommunications America,  
LLC*

## PROOF OF SERVICE

I hereby certify that on this 18th day of February, 2014, I will electronically file the confidential and non-confidential versions of the Appellants' Opening Brief with the Clerk of Court using the CM/ECF System, which will serve via e-mail notice of such filing to all the counsel registered as CM/ECF users.

On this date, I will also cause two confidential paper copies to be served on the below counsel via FedEx overnight delivery.

*Counsel for Appellee U.S. International Trade Commission:*

Clark S. Cheney  
Attorney Advisor  
Office of the General Counsel  
U.S. International Trade Commission  
500 E Street, S.W., Suite 707  
Washington, DC 20436  
[clark.cheney@usitc.gov](mailto:clark.cheney@usitc.gov)

*Counsel for Intervenor Apple Inc.:*

William F. Lee  
Wilmer Cutler Pickering Hale and Dorr LLP  
60 State Street  
Boston, MA 02109  
[William.Lee@wilmerhale.com](mailto:William.Lee@wilmerhale.com)

Upon acceptance by the Court of the e-filed document, six paper confidential copies will be filed with the Court, via Federal Express, within the time provided in the Court's rules.

/s/ Charles K. Verhoeven  
Charles K. Verhoeven

**CERTIFICATE OF COMPLIANCE**

The undersigned hereby certifies that the foregoing Appellants' Reply Brief complies with the type-volume limitations of Fed. R. App. P. 32(a)(7)(B). The word-processing system used to prepare the document, excluding Table of Contents, Table of Authorities, and the Certificate of Interest, calculates that it contains the following number of words: 6,182. This brief was printed using a 14 point Times New Roman font.

/s/ Charles K. Verhoeven  
Charles K. Verhoeven