IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

CASCADES COMPUTER INNOVATION, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., Defendant.	Civil Action No. 1:11-cv-04574 Honorable Matthew F. Kennelly

CASCADES' MOTION FOR JUDGMENT AS A MATTER OF LAW ON VALIDITY AND INFRINGEMENT

Plaintiff Cascades Computer Innovation, LLC ("Cascades") respectfully moves for judgment as a matter of law under Fed.R.Civ.P. 50(a) on validity and infringement. The evidence presented by Samsung failed to overcome the presumption of validity of claims 1 and 15 of U.S. Patent No. 7,065,750 (the "'750 patent"). Further, the evidence presented by Samsung failed to rebut Cascades showing of infringement that the Dalvik virtual machine and Just-In-Time Compiler in the Samsung devices practice claims 1 and 15. For the reasons set forth below, this Court should grant JMOL in favor of Cascades on the issues of validity and infringement.

I. LEGAL STANDARD

JMOL is appropriate if "a party has been fully heard on an issue during a jury trial and the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue." Fed. R. Vic. P. 50(a); *see also Reeves v. Sanderson Plumbing Prod., Inc.*, 530 U.S. 133, 149 (2000). The standard for granting judgment as a matter of law mirrors the standard for granting summary judgment. *Id.* The evidence should be viewed in the light

most favorable to the party against whom judgment was granted. *Murray v. Chicago Transit Auth.*, 252 F.3d 880, 886 (7th Cir. 2001).

II. SAMSUNG FAILED TO OVERCOME PRESUMPTION OF VALIDITY OF THE ASSERTED CLAIMS OF THE '750 PATENT

By statute, each claim of an issued patent is presumed to be valid. 35 U.S.C. § 282. The "presumption is based in part on the expertise of the patent examiners presumed to have performed their job." *Brooktree Corp. v. Advanced Micro Devices*, 977 F.2d 1555, 1574 (Fed. Cir. 1992). To overcome this presumption, a challenger, like Samsung, must prove invalidity by clear and convincing evidence. *Pozen, Inc. v. Par. Pharm, Inc.*, 696 F.3d 1151, 1159-60 (Fed. Cir. 2012). Here, Samsung failed to meet its burden.

Samsung relied on only one item of prior art – United States Patent No. 6,631,514 issued to Bich-Cau Le ("*Le*") – but failed to clearly prove that every claim element of claims 1 and 15 was disclosed in the *Le* prior art as required by 35 U.S.C. § 102. *Richardson v. Suzuki Motor Corp.*, 868 F.2d 1226 (Fed. Cir. 1989). An expert's conclusory testimony, unsupported by independent documentary evidence, cannot supplant the requirement of an anticipatory disclosure. *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1473 (Fed. Cir. 1997). In contrast, Mr. Purdy showed that significant elements of claims 1 and 15 are missing from the *Le* patent (Trial Tr. 741-45). Hence, there was no clear and convincing evidence of anticipation.

As for obviousness under 35 U.S.C. § 103, each asserted claim of the '750 patent had to be proven obvious, e.g., that each and every limitation of claims 1 and 15 ***would*** have been obvious to one of skill in the art at the time of the invention. *See, Honeywell Int'l. Inc. v. United States*, 609 F.3d 1292, 1300-01 (Fed. Cir. 2010) ("Given the failure to prove that the cited references disclose [claim] element (a)(3), the Government has failed to carry its burden of proving by clear and convincing evidence that the claimed invention would have been obvious to

one of skill in the art."). Conclusory testimony, like that given by Professor Medvidovic, is not sufficient to meet Samsung's clear and convincing burden: "General and conclusory testimony … does not suffice as substantial evidence of invalidity." *Koito Mfg. Co. v. Turn-Key Tech, LLC*, 381 F.3d 1142, 1152 (Fed. Cir. 2004).

Cascades is entitled to judgment as a matter of law on the issue of validity for four reasons. First, the *Le* patent was identified in the Patent Examiner's search for relevant prior art:

> A. … The third column is the search query that the patent examiner typed in.
>
> Q. And one of those entries is 6,631,514. Do you see that?
>
> A. Yes.
>
> * * * *
>
> Q. What does that tell you?
>
> A. It tells me that they typed in that – the Le patent number.
>
> Q. Does that tell you that the examiner was aware of the Le patent during prosecution of the '750 patent?
>
> * * * *
>
> A. It says that the patent number came from the patent examiner's fingers. I presume from that we can say that they knew about that patent.

(Trial Tr. 739-740). The relevant portion of the file history for the '750 patent with the search notes regarding the *Le* patent is reproduced below:

		"5295265" | "5530804").PN.				
S46	2	"6247172".URPN.	USPAT	OR	OFF	2004/07/06 10:29
S47	18	("5974524" "6154877" "6345351" "6425118" "6594821" "6631514" "6795966" "6820255" "6826682").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/17 18:19

(PX-2, p. 6 of Search History). Not only was the *Le* '514 patent "search query" initiated by the Examiner on May 17, 2005, but the *Le* '514 patent was necessarily found less relevant than the Kelly '205 patent (DX-661) that was originally used as a basis to reject claims of the '750 patent. On May 26, 2005, Examiner Mary Steelman signed an Office Action (PX-2, Office Action mailed June 3, 2005) rejecting the pending claims in the application that resulted in the '750 patent, finding that the Kelly '205 patent, not the *Le* '514 patent, was the most relevant prior art and anticipated the claims pursuant to 35 U.S.C. § 102(e):

> 9. Claims 35-56 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 5,832,205 to Kelly et al.

(PX-2, May 26, 2005 of Office Action at p. 4). Hence, as Mr. Purdy testified, the Kelly '205 patent was the most relevant prior art reference, because it is the prior art the Examiner relied upon (Trial Tr. 740). Patent examining procedure requires examiners to apply what they consider to be the best prior art:

> In rejecting claims for want of novelty or for obviousness, ***the examiner must cite the best references at his or her command***. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.

37 C.F.R. 1.104(c)(2) (emphasis added).

Indeed, Samsung's expert, Dr. Medvidovic, admitted the patent examiners considered *Le* during the examination of the '750 patent:

> Q. Did you understand that in the patent itself, the '750 patent, there was reference to a patent application that I have just identified that was incorporated by reference?
>
> A. Yes, I understood that.

Q. And did you review the prosecution history of that patent?

A. I believe I looked at it in preparation of my report.

Q. In fact, you say it's one of the things that you considered in your report. And I'll show you the page of your report where you identify U.S. Patent Application No. 09/505,652. That's the same patent application, right?

A. Correct.

Q. And you say that's among the materials in the list of materials that you considered, right?

A. Yes. …

* * * *

Q. The examiner is Examiner Das, D-a-s?

A. Okay.

Q. And he's the same examiner that examined the '750 patent, one of the four, right?

A. Yes.

* * * *

Q. … In an office action, this is part of Defendant's Exhibit 784, an official action, Examiner Das says, "The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure is," and he cites, title, "Emulation system that uses dynamic binary translation and permits the safe speculation of trapped operations, U.S. Patent 6,631,514." That's the Le patent, right?

A. Yes.

(Trial Tr. 1029-30, 1031).

Second, Mr. Purdy showed that the *Le* patent did not anticipate either claim 1 or 15 of the '750 patent because multiple elements of the asserted claims were not disclosed in *Le*:

Q. I want to show you what's been marked as PDX 88. And that's a comparison of claim 1 of the '750 patent to Le. Does this accurately describe your opinion?

A. Yes.

Q. So Le doesn't have element D, a documentation generator; is that correct?

A. That's correct.

Q. The Le patent doesn't have an element E, a documentation tracker; is that correct?

A. Yes.

Q. And the Le patent doesn't have element F, recovery mechanism configured to select a documentation; is that correct?

A. That's correct.

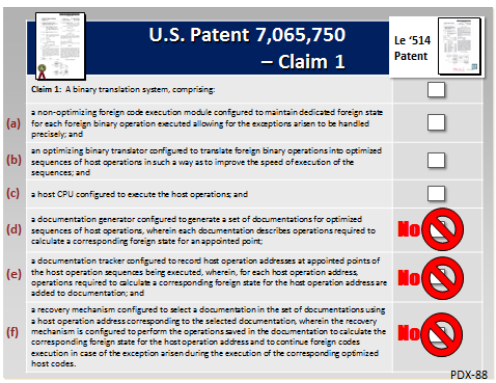
Q. Let me show you PDX 8[9], that's claim 15, and compare it to the – claim 15 of the '750 patent as compared to the Le '514 patent. Do you see that?

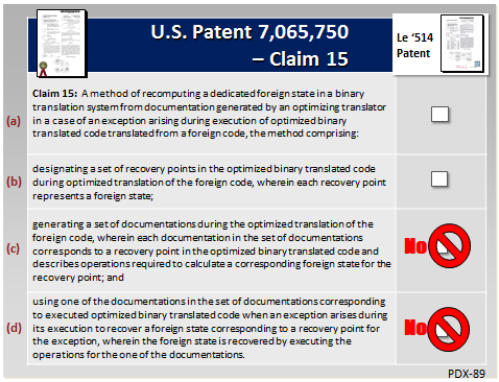
A. Yes.

Q. Is it your opinion – is this an accurate description of your opinion that elements C and D are not disclosed by the Le reference?

A. Yes.

(Trial Tr. 744-45). In other words, as Mr. Purdy testified, the *Le* '514 patent does not teach or disclose at least three elements ("documentation generator," "documentation tracker," and "recovery mechanism") of claim 1 of the '750 patent (Trial Tr. 741-44) and two elements ("generating a set of documentations" and "using one of documentations") of claim 15 of the '750 patent (Trial Tr. 745), as shown in PDX-88 and PDX-89:





Third, Dr. Medvidovic admitted the words of multiple elements of claims 1 and 15 could not be found in the *Le* '514 patent:

> Q. Am I correct, sir, that the words that you said was invalid, documentation generator, documentation tracker, recovery mechanism of claim 1, and generating a set of documentations and using one of the documentations in claim 15 are not present, that is not – those words are not used in the Le patent, you can't find them there, right?
>
> A. I believe that is correct.

(Trial Tr. 1046-47). Given Dr. Medvidovic's admissions about the failings of the *Le* patent, there can be no anticipation.

Dr. Medvidovic also failed to meet the statutory requirement to prove invalidity under 35 U.S.C. § 103 by failing to provide any teaching, suggestion or motivation to combine the elements in the manner of claims 1 and 15 of the '750 patent:

> A. ***It's obvious***, but there's another important point to make there. … So in that sense, that's really – ***it's obvious***.

(Trial. Tr. 988-89; emphasis added). *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 415 (2007).

Worse, Dr. Medvidovic used an improper "hindsight" analysis-by looking at what is obvious today – not what would have been obvious in 1999, at the time the '750 patent was filed. He failed to use the proper standard. Indeed, the Supreme Court in *KSR* cautioned factfinders to "be aware, of course, ***of the distortion caused by hindsight bias*** and [to] be cautious of arguments reliant upon *ex post* reasoning." *KSR*, 550 U.S. at 420-21 (emphasis added). "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *Id.* at 420. Since the *KSR* decision, the Federal Circuit has criticized expert testimony, such as that of Dr. Medvidovic, which is fraught with bias caused by a

hindsight analysis. *ActiveVideo Networks* v. *Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1327 (Fed. Cir. 2012). Even more recently, the Federal Circuit explained that:

> [a]mong the difficult challenges of applying the doctrine of obviousness is avoidance of even a hint of hindsight. Obviousness "cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention."

Cheese Sys. Inc. v. *Tetra Pak Cheese & Powder Sys., Inc.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013) (citing *ATD Corp.* v. *Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998)).

The grant of JMOL on the issues of invalidity is warranted.

III. SAMSUNG FAILED TO PRESENT SUBSTANTIAL EVIDENCE OF NON-INFRINGEMENT

Samsung failed to present substantial evidence to support its defense of non-infringement, namely, that the Dalvik interpreter and JIT Compiler in the Samsung devices do not include: (1) exceptions that arise during optimized translation; (2) foreign code; or (3) recovery to a foreign state after the exception arises. Samsung identified the three limitations during opening:

> Foreign code, we need a foreign code. Okay. Point No. 1.
>
> Point No. 2, what do we need? We need the exceptions to arise during the optimized translation process. …
>
> Point No. 3. After the exceptions arise, what you need to do is you need to have a recovery to a foreign state. …

(Trial Tr. 208). Samsung has failed to present substantial evidence that its phones do not have any of the three limitations identified in opening.

A. Exception Arising

1. The Court's Claim Construction Only Required Instructions *Prior* To The Instruction Containing The Exception ("I_e") To Be Executed

Samsung's argument that an instruction where exception "arises" was not "executed" in the JIT Compiler, but, rather, was simply "detected," is unsupported by Samsung's own technical expert and fails to rebut infringement. For instance, in the context of the present invention, this Court ruled that "precise" exception handling was to be construed as follows:

> The Court therefore adopts the defendants' construction of "precisely," but adds the words "such that" at the beginning of the definition in order to make the interpretation grammatically correct; "precisely" is an adverb. That construction is: "such that a later instruction has not yet been executed and all prior instructions preceding the instruction causing the exception have executed and committed their results."

(Dkt. 141 at 36). In other words, Samsung argues that: (1) all of the instructions ***prior*** to the instruction causing the exception had to be executed and committed; (2) a later instruction was not executed, but (3) that the instruction containing the exception ("I_e") – i.e., the instruction whereby the exception arises – has no requirements as to whether it has been executed and committed to memory or not.

2. Samsung's New Claim Construction Is Contrary To The Intrinsic Record

Even if the Court had not provided a construction giving guidance on which instructions needed to be executed in order to meet the limitations of the asserted claims, Samsung's arguments about execution are still inappropriate, as the intrinsic record of the '750 patent makes clear that "exceptions arise" in situations other than their ***execution***, e.g., in detecting such instructions:

> Common exceptions arise, by way of example, when the denominator is zero and a divide instruction is executed; when an overflow occurs as the result of an

> arithmetic operation; when an invalid processor instruction is encountered; when a page fault occurs ***or when an illegal operation is detected***.

('750 Patent, 2:37-42; emphasis added). The specification is the single best guide to the meaning of a claim term. *Phillips v. AWH Corp.*, 415 F.3d 1301 (Fed. Cir. 2005) (en banc). Thus, the intrinsic record plainly encompasses "detection," not just "execution," as examples of when "exceptions arise."

3. Samsung Failed To Present Evidence That Exceptions Do Not Arise In The Optimized Translation In The JIT Compiler

Dr. Medvidovic failed to present substantial evidence that exceptions do not arise during the optimized translation process in Samsung phones (Trial Tr. 908-18). Indeed, his testimony regarding what Google's patent teaches confirms that Samsung phones (which run Google Android) meet the "exception arising" limitation according to Samsung:

> A. Well, this is the JIT compiler doing its job, taking bytecodes and trying to produce machine codes. And in that translation process, the process of optimized translation, it may catch an error. It may encounter an error. So this is talking about that.

(Trial Tr. 1040; see also DDX-012.72 and PDX-74). Further, during his direct examination, Dr. Medvidovic only looked at whether the exception was actually executed (crashing the system). (Trial Tr. 932-936). More importantly, he admitted that in the JIT compliler, the system depicts for the exception:

> A. ...So, in other words, it's going to check if the bottom number, the divisor, is zero, before it does anything. And then if it is zero, then it's going to prevent the actual division from occurring.
>
> ***
>
> So when Mr. Purdy showed yesterday is evidence that an exception is thrown, in fact, in the source code itself is only used when the JIT'ed code approaches the point at which an exception might be thrown. It never gets there. The whole point is that it stops before it ever gets there.

(Trial Tr. 935 and 937).

B. Foreign Code Or Foreign State

Dr. Medvidovic failed to present substantial evidence that Samsung phones do not have foreign code (Trial Tr. 939-42). In fact, he testified that the Samsung phones do have foreign code that is optimized:

> Q. Now, apps are designed, you said, for Google and there's nothing foreign, right?
>
> A. I acknowledge the possibility that one might say that Java might – the program language itself might be foreign to the system because it's for humans and written by humans.
>
> Q. But the idea here is that you take a code, let's call it foreign, French, for example, and you convert it into something that the processor can understand, English, right?
>
> A. Except that in this case that conversion –
>
> Q. Is that right or wrong?
>
> A. Other than the foreign word, yes.
>
> Q. Now, the apps are inside the phone, right?
>
> A. Yes.
>
> Q. And they're written in a language that the processor can't read?
>
> A. Yes.

(Trial Tr. 999). There is no factual dispute that there is foreign code that is translated within the Samsung phones. (Trial Tr. 866-867; 871-873).

C. Recovery To A Foreign State

Dr. Medvidovic failed to present substantial evidence that Samsung phones do not have recovery to a foreign state (Trial Tr. 940-47). Again, his testimony regarding what Google's patent teaches only that Samsung phones (which run Google Android) meet the third element for infringement according to Samsung:

> Q. Okay. Let me take you to the other section you were pointed to, which I think was just on the other side of the page here. And it says, "As another example, modifying the JIT compiler catch system errors that arise during JIT compiler execution may enable the VM to avoid further executing compiled traces that result in system errors, increasing system stability and improve performance." What does that mean?
>
> A. You kind of went fast, so give me just a second to read it.
>
> Q. Sure.
>
> A. Okay. So this talks about the possibility of allowing the JIT compiler to actually allow the errors to occur and then catching them after they occur. And, according to them, this may actually improve the performance of the JIT compiler.

(Trial Tr. 1041). The testimony of Dr. Medvidovic demonstrates that the Samsung devices recover to a foreign state.

IV. CONCLUSION

For the reasons stated above, this Court should grant JMOL on the issues of validity and infringement.

Dated: September 21, 2015

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on September 21, 2015 the foregoing:

CASCADES' MOTION FOR JUDGMENT AS A MATTER OF LAW ON VALIDITY AND INFRINGEMENT

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