UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

DSS TECHNOLOGY MANAGEMENT, INC.	DOCKET 2:14CV199
VS.	MARCH 3, 2015
TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY, LTD., ET AL	9:00 A.M.
	MARSHALL, TEXAS

VOLUME 1 OF 1, PAGES 1 THROUGH 96

REPORTER'S TRANSCRIPT OF CLAIM CONSTRUCTION HEARING

BEFORE THE HONORABLE ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

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(OPEN COURT, ALL PARTIES PRESENT.)

THE COURT: Good morning. For the record, we're here for the claim construction hearing in *DSS Technology versus Taiwan Semiconductor, et al*, which is Case Number 2:14-199 on our docket.

Would counsel state their appearances for the record?

MR. DAVIS: Good morning, your Honor. Bo Davis on behalf of the plaintiff. We have today Mr. Christian Hurt --

MR. HURT: Good morning, your Honor.

MR. DAVIS: -- Kirk Voss, Andrew Wright, Derek Gilliland, and Ed Chin. We're ready to proceed.

THE COURT: All right. Thank you, Mr. Davis.

MS. HENRY: Good morning, your Honor. Claire Henry on behalf of Defendant Taiwan Semiconductor. Along with me today is David Harper, Scott Cunning, Stephanie Sivinski. And our client representative, Michael Shen, is here from Taiwan.

THE COURT: All right. Thank you, Ms. Henry.

MR. JONES: Your Honor, on behalf of Samsung, Mike Jones. Presenting for Samsung will be Mr. Jason Bobrow -- Jared Bobrow. Excuse me. I apologize, Mr. Bobrow -- and Mr. Jason Lang.

MR. LANG: Good morning.

MR. JONES: Also here representing Samsung, Mr. Sangmin Lee; and he is from Samsung itself. And behind him is Mr. Christopher Marando, and he also represents Samsung.

THE COURT: All right. Thank you, Mr. Jones.

MR. McCABE: Good morning, your Honor. William McCabe from Ropes & Gray representing NEC Corporation of America; and with me is Jenna Gillingham.

THE COURT: All right. Thank you, Mr. McCabe.

Very well. I will state for the record also that earlier this morning we distributed preliminary constructions. The purpose of distributing those before the argument is to let both sides know where we are with the constructions based on the initial review of the briefs and the record.

The preliminary constructions are designed to allow both sides to focus their arguments where they think they are most important and to focus on those areas where they think the court has gone wrong. I do naturally reserve the right to, and occasionally do, revise these preliminary constructions based on the arguments that are received; so, I hope that you will take them in that spirit.

I'd also like to hear the arguments on a term-by-term basis, but we can approach the terms in

whatever order counsel think will be most helpful in this case. I know the briefing was not in complete agreement as far as how the terms should be addressed. But if you have an idea about the most effective way to address it, I want to give you the freedom to address it in that fashion.

Mr. Davis, have counsel come to any agreements on the best way to approach that?

MR. DAVIS: Yes, your Honor. We have agreement on how to proceed with the terms today.

THE COURT: All right. Then go ahead.

MR. HURT: Good morning, your Honor. Christian Hurt on behalf of the Plaintiff DSS.

We had talked to counsel before about just going from the first term down to the bottom because we think that would probably be the most effective, and there is a limited number of disputes and limited number of terms.

The first term is the "patterning the imaging layer" term. We can accept the court's preliminary construction. The issue with the patterning really relates to some of the terms later in the chart, namely, the "first/second patterned layer having a first/second feature." But as the court has construed "patterning the first/second imaging layer," we can live with the court's

preliminary construction. Unless the court wants to have any additional argument on it, I'll sit down and let the defendants address that first term.

THE COURT: All right, Mr. Hurt. That's fine.

MR. BOBROW: Good morning, your Honor. Jared Bobrow for Samsung.

And with respect to the first term, "patterning the first/second imaging layer," we're also fine accepting the court's construction. Thank you.

THE COURT: All right. Thank you, Mr. Bobrow.

MR. HURT: Good morning, your Honor. Christian Hurt again.

Moving to the second term, we are also fine with the court's construction. There is one issue I wanted to seek some clarification on; and that is, the preliminary construction says "a layer containing the portions and spaces of the first/second imaging layer that remain after the first/second patterning step."

The clarification I wanted to seek was that the layer containing the portion and spaces of the first and second -- or the first/second imaging layer that remain after the patterning step, that that layer can actually be a layer that is separate from the imaging layer. As long as that is the court's construction and understanding, the plaintiff can live with that

construction of the term. If not, I can go into sort of why our position, we think, is right and what the claims say on that particular claim construction issue.

THE COURT: All right. Well, why don't we find out if there is a dispute with that; and --

MR. HURT: Sure.

THE COURT: -- then I'll let you address it.

MR. BOBROW: Your Honor, Jared Bobrow for Samsung.

Yes, there is a dispute about that. I think that the court's preliminary certainly makes clear that the layer that we're discussing there are the portions and spaces of the first and second imaging layer, of the imaging layer. And the defendants' position here is that that pattern needs to be the imaging layer and not another layer. So, it appears that there is a dispute and that the parties should address this term.

THE COURT: Okay. Why don't you go ahead, since you're up there, and address it and then I'll let Mr. Hurt speak and you can respond if necessary.

MR. BOBROW: Thank you, your Honor.

And would you please turn to Slide 40?

And does your Honor have a copy of both sides' presentation materials available? I don't know whether those have been handed out, but I'm happy to do so at

this time.

THE COURT: I have a copy of the plaintiff's I see here. I don't know that I've yet received a copy of the defendants'.

MR. BOBROW: Apologies, your Honor. If Mr. Jones may approach the bench and distribute those copies.

THE COURT: You may.

MR. BOBROW: Thank you.

Thank you, your Honor. So, with respect to the term, the "first patterned layer" and also the "second patterned layer," those terms and the parties' positions are outlined in pages 40 and 41 of our slide deck.

And the court's interpretation -- I'll start by saying that the defendants are fine to accept your Honor's preliminary construction. We have no objection to it. And the reason that we have no objection to it is the reason that I started with, is that in our view this construction makes crystal-clear that what we're talking about here with respect to a first patterned layer or a second patterned layer is the imaging layer that has been patterned.

In other words, the claim says that you start by patterning an imaging layer to form the first or the

second patterned layer. And I think that the court's construction makes clear that the patterning that has been performed previously forms the patterned layer and that is of the imaging layer. So, you perform a process, patterning, on the imaging layer; and that creates the pattern.

And as a result of that, the defendants' position is that indeed what we're talking about there is the imaging layer after it has been patterned and not some other layer that is later processed, later developed, later etched, later fabricated downstream of that process. So, indeed I think the court's preliminary construction got it exactly right, that it's limited to the imaging layer.

And we can start with Slide 43, if we may, by simply focusing on the claim language which shows that indeed this is the natural, plain reading of the claim language. You pattern the first imaging layer "to form a first patterned layer having a first feature," and you do the same with the second. So, the language makes clear that that's exactly what you're doing.

And I think as well if we look at the specification, there is no doubt that that's completely consistent and supports exactly the court's claim construction, that what we're doing is forming a

patterned layer; namely, the image layering is patterned and not some other layer.

If we turn to Slide 45, you can see at the beginning that the claim language corresponds directly to what's depicted in the specification. And we start with that "patterning the first imaging layer in accordance with a first pattern." Figure 2 of the patent and the text show -- and we've outlined it in a red box there -- what's going on. Essentially that patterning -- and there is no dispute, and the court's construction supports this -- that what you're doing in that step is you are exposing that imaging layer to radiation; and then after you've exposed it to that radiation, then you develop it. And that patterning step consists of exposing and developing, exposing and developing; and when you do that, what the patent shows and what the claim then says is that exposure and development then form the first patterned layer.

And that first patterned layer is essentially what remains of the imaging layer after you've done the patterning step, after you exposed it to radiation, after it's been developed. This is what's left. And the patent shows that imaging layer -- and that's 232. That's what remains from layer 220, which is the imaging layer. And what remains after the patterning is a

portion of the imaging layer.

Now, the patent never shows anything happening to any other layer. Nothing ever happens to layer 210, this underlying layer. Nothing ever happens to the substrate, layer 200. Those layers as described in the patent, they are never shown as a result of patterning, the patterning of the imaging layer, to change.

And that's true also with the second patterned layer. And once again the patent claims and the specification shows that you do the patterning step, which everyone seems to agree is exposing and developing the light-sensitive imaging layer -- you do that, and you do that to form a second patterned layer.

And once again, the second patterned layer are these red chunks -- I'll call them -- red portions; and those are the portions of that second imaging layer that remain after the patterning. So, they are of the imaging layer. They are not of some other layer; they are of the imaging layer. And that's what remains of that imaging layer, and you do that to form that second patterned layer.

So, there it is from the specification. It says all that is shown -- and once again with the second patterned layer, there is never a description of somehow -- that that patterning of the imaging layer does

something else to some other layer, say layer 210 which is under the imaging layer. And I submit that that's in part because when you're talking about the patterning steps and you're talking about exposing and radiating and developing, those are the words of things that you do to the photosensitive imaging layer. They are not things that you do to the underlying layer, and they could indeed have no effect on the underlying layer because those are the steps that are designed to deal with and operate on the imaging layer.

Further in the specification, if we look at the text of it, it once again makes clear what we're talking about. These are the remaining portions of the imaging layer, and that's what the first patterned layer is. Once again, looking at Column 4 of the patent, it talks about the imaging layer 220 and you develop it and you eradiate it and what remains -- "and thus remains to form" the first patterned layer. So, that's what remains.

The language is the same with respect to the second patterned layer. You eradiate it, you develop it, "and thus remains" those essentially features or portions of that imaging layer to form the second patterned layer.

So, the construction that DSS has proposed made clear that what they are trying to do is to broaden

this term and have it extend to something that the patent never discusses, that you can do some sort of operation on the imaging layer, do your patterning on the imaging layer.

But they are trying to say that that indeed can be read so broadly as to say that it covers the translation or conveyance of the pattern into some other layer, into some underlying layer. And once again I think there are several keys here. The first is that exposure and development are treatments that you make to an imaging layer and not to other layers. That's Point Number 1.

And Point Number 2 is that the patent never talks about the underlying layer as a patterned layer. This layer 210, which is under the photoresist, is called an "underlying layer" consistently throughout the patent. It's not called a "patterned layer." The only layer that's called a "patterned layer" by those words of the claim is this layer 220 after the patterning operation has been performed, and this layer 210 is never so-called. And indeed the patent says that you have this underlying layer, but you don't even need it. It's not even relevant to the invention.

So, the specification discusses and distinguishes the first patterned layer from this

underlying layer 210 calling them different things, giving them different numbers, always calling them out as being different.

And that's also true when you talk about the single patterned layer that results at the end of this process. Again, the single patterned layer is shown in Column 12, also talking about that patterned layer as being different from the underlying layer. So, that's the vernacular of the patent. The patterned layer is the thing that results from patterning the imaging layer. It's the remaining portions of the imaging layers. And the underlying layer is the thing that is underneath that patterned layer.

The other problem I think with the construction that DSS is advocating here is that it could be read to be a construction that actually excludes the preferred embodiment because what they are proposing here is to say that the first patterned layer is a layer; and then they say that it contains a pattern defined by the first imaging layer, "defined by" it. And the patent tends to talk about a definition or having a layer defined by something when that layer is a mask for an underlying layer, where you are trying to take that pattern of a mask and then translate it into another layer.

And, so, when it says, "a layer containing the pattern defined by...the second imaging layer that remains," they are essentially saying that the remaining parts of the imaging layer can't be the patterned layer. They're saying that it can't be because it's the thing that creates the pattern in this other layer.

And that's clearly inconsistent with the preferred embodiment. The only embodiment shown in the patent, preferred and exclusive, is the embodiment where the patterning forms the pattern in the imaging layer. There are portions that remain, and that's what is called the "patterned layer."

And, so, what we really have here is -- and I think this is shown in the brief -- is that DSS is trying to take this concept of patterning the imaging layer to form this patterned layer and they are essentially trying to say that it can cover everything downstream and, so, they insert words in their brief that reflect that.

They talk about "patterning an imaging layer to subsequently form a patterned layer," "to then form the patterned layer." That's not what the claim says. The claim says that you do the patterning of the imaging layer to form the patterned layer, and we submit that the court's construction as presented in its preliminary ruling this morning accurately reflects that.

And the last point that I would make, your Honor, there was an argument in the briefs where the plaintiff was relying on the *Becton Dickinson* case essentially saying, well, gee, because there is an imaging layer that is referred to in the claim and because there is a patterned layer that is referred to in the claim, those things -- the fact that there are words there of that type suggest that they must be different.

And that's simply not the case because the *Becton* case was really about an invention that talked about very discrete, very separate elements. It was a mechanical structure and there were four things that were listed separately and the court said, "Well, you've listed them separately. They appear to be separate; and, so, we'll treat them in that fashion."

But that's not how this claim is constructed. What's going on in this claim is that you have a patterning step that is being performed on the imaging layer to form the patterned layer. So, you're taking this process; and you are operating on a layer to form this other layer. So, they are inextricably connected. They are not separate elements as they were in the *Becton* case.

And that's all we have at this time, your Honor. Thank you.

THE COURT: All right. Thank you, Mr. Bobrow.

MR. HURT: Good morning, your Honor. Christian Hurt again for DSS.

I agree with the defendants that the claim language is patterning an imaging layer to form a patterned layer. But what the defendants are trying to do is limit that construction to require that the imaging layer and the patterned layer are the same material, the same layer.

But if you actually look at the claims, the claims claim two separate layers, an imaging layer and then a patterned layer. They don't claim a patterned imaging layer, as the defendants loaded up their brief with. They instead claim forming -- "patterning the first imaging layer...to form a first patterned layer."

And also, in addition, there are multiple layers in the claim, a first imaging layer, a first patterned layer, a second imaging layer, a second patterned layer. If all of these elements were physically the same place and space, there would be no need to have the first imaging layer, the second imaging layer, the first patterned layer, the second patterned layer.

THE COURT: Is there anything in the specification that you can point to in which the

patterned layer is anything other than a portion of the imaging layer?

MR. HURT: So, in the preferred embodiment Mr. Bobrow is correct that the patterned layer is what remains of the imaging layer. However, in the specification there is a disclosure that the layers mentioned can include multiple layers; and there is disclosure of -- that the imaging layer -- the second imaging layer can be on top of the first patterned layer, which indicates that they don't all have to be physically the same material and space.

And the claims -- if you look at the actual claim language, it's broader than that one preferred embodiment. The claim language says -- it doesn't say "patterned imaging layer." It says "to form a patterned layer." Under the *Becton* case, under the *Gaus* case, under a number of Federal Circuit cases, when claims use different elements, here different layers, there is a strong presumption that it includes where those are not the same element.

And Mr. Bobrow is incorrect about our construction excluding the preferred embodiment because a patterned imaging layer, which is what they want to narrow the claims to, would be a layer that's defined by the pattern -- is defined by the pattern that is applied

to the imaging layer.

And I think the court's construction actually captures this because it rejected the defendants' overly narrow construction. Contrary to what Mr. Bobrow said, the court's construction was not that the first patterned layer is the portions and spaces of the imaging layer that remain. The construction is a layer that contains the portions and spaces of the imaging layer.

Underlying layers -- by doing additional steps or by doing other things, that pattern that has the spaces and portions is contained in a patterned layer. It does not necessarily have to be the material of the patterned imaging layer.

And, your Honor, this construction for them, they put it in their tech tutorial; and it is all over their briefs. This is a pure noninfringement position of where they are trying to point to in their process, what they call the "imaging layer" and the "patterned layer" even though under their own tutorial, the same pattern propagates throughout; and, so, that's where this is sort of driving it.

And, you know, I believe that if we were in a situation where things were reversed, the defendants would be up here arguing the *Becton* case and the *Gaus* case saying that the two layers have to be different

layers and can't include the same layer.

So, we're fine with the court's construction. It's not what the defendants say it is. The claims clearly list out two separate layers, an imaging layer and a first patterned layer -- or and a patterned layer. There is no patterned imaging layer that gives rise to the presumption that they can be different materials. Nothing in the specification or the prosecution history clearly departs from that presumption.

There is also claim differentiation argument as well. So, claim 4 and claim 5 of the patent specifically mention the type of patterning that the defendants -- a type of pattern that defendants are seeking to inject into the claims. Namely, at claim 4 and claim 5, the patterning steps result "such that the exposed portion dissolves to form the first patterned layer."

This is the instance that Mr. Bobrow was walking through where the imaging layer and the patterned layer are actually the same material. But if claim 4 and claim 5, as narrow dependent claims, cover that situation, then claim 1 which does not have that limitation necessarily does not.

And under the *Edwards* case and a number of cases on claim differentiation, there has to be some type

of clear disclaimer, clear import in the spec to overcome that claim differentiation presumption. There is nothing in the spec.

THE COURT: Well, are you saying that the only difference between 1 and 4 and 5 is that it is shown to be the same layer?

MR. HURT: Yes, your Honor, based on the way that the court has construed "patterning." "Patterning" already includes the exposing and developing steps. The only construction of the -- the only words that are missing substantively from the court's construction of "patterning" are the "such that" clauses at the end of claims 4 and 5.

So, the court construed "patterning." The parties largely agreed that patterning requires exposing and developing. And claims 4 and 5 require exposing and then developing, but then have this additional "such that" clause. And the "such that" clause is not in the "patterning" construction; and as a result, claims 4 and 5 include a limitation, "such that the exposed portion dissolves to form the patterned layer," that's not in claim 1.

And we're not talking about a continuation five chains down where the inventor is trying to recapture something that's, you know, been clearly

disclaimed in the spec or the prosecution history. This is in the claims of this application.

And I think the court's construction grasps this by saying it is "a layer containing the portions" and not, as the defendants wanted, the portions and spaces themselves.

So, unless the court has any questions, we'll rest on that term.

THE COURT: So, Mr. Hurt, what you're saying is that you understand "a layer containing" to mean that it can be a different layer than the imaging layer?

MR. HURT: Yes, your Honor. It's a layer that contains the portions of the pattern that remain after the first imaging step. And that can be the imaging layer that was patterned, or that can be a separate layer. The defendants' construction was limited to -- they read "a layer containing" out of your Honor's construction.

THE COURT: Well, the construction is "a layer containing the portions...of the imaging layer."

MR. HURT: Correct.

THE COURT: And you're saying that it can be a different layer than the imaging layer but contain those portions?

MR. HURT: That's correct. So, through -- it

can be a different layer than the imaging layer because that pattern that is created on the imaging layer is a pattern that is in what the defendants call -- what they call an "underlying layer."

But essentially it's -- a layer in the -- in the semiconductor contains that pattern that is patterned off the -- patterned using the -- patterned -- I'm sorry -- the patterned imaging layer; so, the portions and spaces continue to be propagated through -- or can propagate through.

THE COURT: You would be reading this as "a layer containing the pattern of the portions and spaces"? Is that the way you're interpreting it?

MR. HURT: No, your Honor. I'm reading it as "a layer containing the portions and spaces." I just -- I read it as the "layer containing" does not necessarily mean that the layer is the portions and spaces of the second imaging layer that remain, that that is what the patterned layer must be.

THE COURT: I can see where "spaces" could be understood to be a layer -- another layer below having the same spaces. But how would "portions" -- how would a layer that contains the portions of the imaging layer not be the imaging layer?

MR. HURT: Because the layer that's underneath

the imaging layer contains the portions and spaces of the imaging layer after the imaging layer -- it actually contains those portions and spaces in the next -- under the defendants' product when the etched step is done.

But under the patent it could be using other processes, that the portions of the imaging layer that remain after exposure to radiation, those portions are actually then in other layers as the process goes on. And the defendants are -- I mean, that pattern is formed using the patterning; and the defendants are limiting it to the actual material when the claims don't require that limitation.

THE COURT: All right. I think I understand your argument. Thank you.

MR. HURT: Sure.

MR. BOBROW: Your Honor, may I briefly respond?

THE COURT: Yes, you may, Mr. Bobrow.

MR. BOBROW: So, your Honor, looking once again at the text of your Honor's preliminary construction, the plaintiff's reading of this construction simply makes no sense and is not the natural reading of the construction in any way because of the possessive. Your Honor construed this to mean "a layer containing the portions and spaces of the imaging layer."

Now, that is the possessive. You are talking about the imaging layer and portions of that layer.

If the imaging layer is then used as a mask in some fashion to do a subsequent processing step -- for example, to etch an underlying layer -- you might transfer a pattern; but the pattern that is in that other layer, those are not portions of the imaging layer. They might be portions of the underlying layer, but they're not portions of the imaging layer. And that's why the court's construction, we submit, makes crystal-clear that what we're talking about and what that means is you're talking about "portions and spaces of the imaging layer"; and that's why we think it's consistent with the defendants' original construction.

THE COURT: What do you say to the claim differentiation argument based on claims 4 and 5?

MR. BOBROW: Let me ask -- let's turn to Slide 37, please; and perhaps we can address it that way.

So, as Mr. Hurt argued, he is saying that essentially there is a claim differentiation argument because claims 4 and 5 discuss the exposing and patterning steps. But what DSS doesn't recognize and the reason there is, in fact, no differentiation here is because claims 4 and 5 are limited to the situation where the imaging and patterning that you're doing is with

respect to positive photoresist.

So, there are -- typically in the field there are a couple of ways that you can treat the imaging layer and -- the composition of the imaging layer being treated. One is to use so-called "positive resist," and another way is to use so-called "negative resist."

And when you use positive resist, you expose the material to radiation; and then when you do the development, it's the exposed parts, the parts that you've eradiated, that get dissolved, that go away. So, that's what happens when you use the positive imaging layer.

When you use the negative, it's the opposite. You eradiate certain portions, but those portions are the ones that remain. The developer gets rid of the unexposed portions.

So, that's the difference between positive and negative; and what claims 4 and 5 discuss are the positive version of the imaging material. That's the light-sensitive material that's being discussed here because, as you can see in claim 4 and in claim 5, what's being discussed is the dissolution of the exposed portions to form a second patterned layer. So, all claims 4 and 5 are saying is use the positive flavor of the imaging layer. We're not going to cover by claims 4

and 5 the negative flavor of the imaging layer.

Mr. Hurt also discussed the notion that -- you asked the question of is there anything in the specification where the patterned layer is referred to as anything other than that, other than the imaging layer; and I didn't hear a citation because I think there is none. As we submitted, every place in the patent that talks about and uses those words, "patterned layer," it's talking about the imaging layer after that patterning has been performed on the imaging layer.

And if you're going to do something to a layer underneath, the patent talks about doing etching. It doesn't talk about that in terms of doing -- developing. It doesn't talk about it in terms of exposure. And, so, what Mr. Hurt is trying to do is say that somehow we should capture in this patterning, which both sides have agreed is dealing with exposing and developing -- somehow we should capture something else, like etching into an underlying layer and capturing that within the claim. That is not within the claim, and we think that the court's construction accurately captures that. Thank you.

MR. HURT: Very briefly, your Honor.

THE COURT: All right, Mr. Hurt.

MR. HURT: Two very quick points. First,

Mr. Bobrow mentioned that claims 4 and 5 are limited to the situation where positive photoresist is used. But then that would read claims 2 and 3 out of the patent, which are limited to when positive photoresist is used; and it expressly says that. So, claims 4 and 5 have to be different; and that means that the patterning has to be different.

On the where in the specification is there a disclosure that supports our construction, I did not give a citation. That is right. But that's not because I made it up. That's just because I forgot to give a citation. In the Background of the Invention, Column 1, lines 23 to 25, it says, "The photoresist is then developed to form a patterned photoresist layer." That's what the defendants called the "patterned layer." But then if you keep reading, "over the underlying to be patterned"; and that's what we submit is the patterned layer.

There is also a portion in the specification -- Column 5, 62 to 63 -- where the imaging layer for the second imaging layer is above the first patterned layer, which indicates that the layers do not need to all be the same layer.

Thank you, your Honor.

THE COURT: All right. So, next we'll address

the first pattern, second pattern, and feature distinct.

MR. VOSS: Craig Voss for Plaintiff DSS.

Your Honor, pretty simple. The crux of it is -- it looks like the court in its preliminary construction has adopted the defendants' proposed construction. DSS -- the removal of "geometric pattern" -- the word "geometric" DSS is okay with.

The distinction that DSS contends needs to be in the construction is that the first pattern and second pattern must be different patterns, and that's due to the fact that they are labeled "first pattern" and "second pattern." And while it is true that the ordinal numbers "first" and "second" usually relate to instances of the same element, if the patterns were the same, the claim language would read "first pattern" and "said first pattern" not "first pattern" and "second pattern."

Every instance of the mask disclosure in the '084 specification, when it describes the first mask and second mask in relating to those figures, shows a different pattern for the first mask and second pattern, which would create different patterned layers. And that's true for figures 2 and 4, 7 and 9, and 13 and 15. Every instance of a first pattern and second pattern are showing different patterns.

THE COURT: So, you're saying that the claim

should be limited to the embodiments shown?

MR. VOSS: I'm saying that the first pattern is different from the second pattern.

THE COURT: Just because in the different figures it is shown that way?

MR. VOSS: Yes, your Honor.

THE COURT: All right. Is there anything in the language itself that indicates that they have to be different patterns?

MR. VOSS: Just the fact that they are labeled "first pattern" and "second pattern" differently.

THE COURT: Well -- all right.

MR. HARPER: Your Honor, David Harper for the defendants.

We, of course, agree with the court's construction and don't believe that the claim language supports a different pattern at all.

As cited in our briefing, the claim language does not require that the first and second patterns be different. The case authority is clear on this -- and we've cited these authorities in our briefing -- that "The use of the terms of 'first' and 'second' is a common patent-law convention to distinguish between repeated instances of an element or a limitation."

And in the patent itself in other places,

"first" and "second" is used to refer to just another occurrence of the same limitation. So, for example, there is no dispute that the same photoresist material could be used in the first and second imaging layers. So, "first" and "second" is used this way throughout the patent.

The specification also doesn't support that this would be a second pattern or a different pattern. The specification points out multiple times "any suitable pattern" can be used. Nowhere does the specification say that there has to be two different patterns.

THE COURT: Do you agree that all of the embodiments show different patterns?

MR. HARPER: No, not necessarily, your Honor. I think that this slide here demonstrates that there is a mask, and I think the specification describing these figures talks about a first and second mask. But this mask could just be shifted horizontally. It's in the same way when saying "first" and "second," just using the second instance of potentially the same mask, just shifted in some way.

So, for example, in our briefing we show this figure where the same mask is being used. The circle represents where the wafer is on the mask. And by simply moving the mask, you can create different features.

Also, your Honor, in a co-pending application, the patentee knew exactly how to claim different patterns if they wanted to. They actually tried to do that in a related application. This is all cited in our briefing and contained at Exhibit F to our brief. But they actually asked for a second pattern different from the first pattern and the examiner rejected it and said it was not supported actually by the specification. And what's clear from this process is that everyone understood that the same pattern would be included, would definitely be included.

And as we cited in our briefing, the *Microsoft v. Multi-Tech* case tells us that this prosecution history is certainly relevant.

Finally, I would point out that in this Institution Decision in the IPR filed on this patent, the PTAB considered this exact same argument and also agreed with the court that the second pattern is not necessarily different and referred to the specification exactly.

And the PTAB is applying, in that Institution Decision, the same claim construction standard that the court is using -- it's applying the *Phillips* standard -- because this is an expired patent. It expired in December. And, so, it is using the exact same standard that the court is using. Thank you, your Honor.

THE COURT: All right.

MR. VOSS: Brief response, your Honor?

THE COURT: All right.

MR. VOSS: So, a couple things I'd like to point out. First of all, the '223 patent prosecution history, it's of less relevance because it's a different patent. However, the rejection was actually -- well, the patentee attempted to reverse the rejection because the specification actually does teach two different patterns. Like I pointed out when I first stepped up here, that figures 2 and 4, 7 and 9, and 13 and 15 disclose separate patterns. So, that's not necessarily -- the examiner's statement in the '223 patent shouldn't control. And it's oftentimes that patentees claim similar inventions in continuations and divisionals; and, so, that patent was just an express recitation of what is implicit by the first and second pattern found in the '084 patent.

THE COURT: Mr. Voss, wouldn't you agree, though, there is a big difference between the possibility that it can be a different pattern and the requirement that it be a different pattern?

MR. VOSS: I think there is a difference there, yes. But when you look at the specification language, where it says "any suitable pattern" may be

used, that "suitable" -- DSS views that "suitable" as being different from the first pattern. A suitable pattern is not the first pattern or second pattern. Because the claim language says "first" and "second," the pattern must be different.

THE COURT: We get "first" and "second" all the time for elements that are the same. Why does the use of "first" and "second" require that it be different? I mean, obviously it is a patterned -- I mean --

MR. VOSS: It's a separate instance.

THE COURT: It's a separate element. But to require that it be different would be like requiring that the material used for the imaging layer be different because one is first and one is second, wouldn't it?

MR. VOSS: I don't think so, your Honor. I think that the language "first pattern" and "second pattern" means that they need to be different patterns.

THE COURT: Okay.

MR. VOSS: And one point on the *Beneficial versus Black Dot* case that defendants cited. If you look at the actual proposed construction there, it was a "first user" and "second user." And the plaintiff suggested in its claim construction that the first user be separate, a different user than the second user; and Judge Ward accepted that definition. Thank you.

THE COURT: And I understand that there are times when it does need -- to make sense, it needs to be a different thing. But a pattern is, it seems to me, distinguishable from an item, an object. But in any event, I understand your argument.

MR. VOSS: Okay.

THE COURT: I appreciate it.

MR. VOSS: Thank you, your Honor.

MR. HARPER: Nothing further from me, your Honor.

THE COURT: All right.

MR. VOSS: So we can move to "a second feature distinct from the first feature."

THE COURT: Yes.

MR. VOSS: DSS can agree to the court's preliminary construction; so, if defendants want to address it...

THE COURT: All right.

MR. CUNNING: Good morning, your Honor.

Stephanie, can you give me Slide 127?

We do still have an issue with the court's preliminary construction, and that is that -- the court has substituted "distinct" for "distinguishable." In our view, as said, "distinct" means "distinguishable"; and we would agree that, you know, but for the prosecution

history, "distinct" could be understood in its plain and ordinary to be distinguishable, discernible, some difference.

But the applicants expressly argued during prosecution to overcome an obviousness rejection over an IBM Technical Disclosure; and they pointed to features A, C, D and E that we have up here on the screen. Those features are distinguishable. They are formed from different layers. They are openings of different widths. Feature A is formed from layer 2. Feature C is formed from layer 6. Feature D is formed with reference to both layers 2 and 6.

So, there are multiple ways in which the court or in which someone of ordinary skill reading the IBM Technical Disclosure could distinguish between the features A, C, D and E; but the applicant argued that these were non-distinct features.

Whatever "distinct" means, it can't mean "distinguishable." Otherwise, you cannot square what the applicant argued to overcome the rejection of the IBM Technical Disclosure with the fact that these features are distinguishable.

And if this construction were to stand, it presents invalidity problems for the '084 patent. The construction that the defendants had urged was in some

ways a claim-saving construction. If this construction stands -- and, you know, we intend to move to amend our invalidity contentions based on the court's construction and argue that the '084 patent is invalid over the IBM Technical Disclosure. So, it must mean something less than distinguishable based on these arguments. And then, you know, we contend that that something less than distinguishable was not overlapping.

The specific argument that the applicant made to distinguish over Disclosure 1 was that Disclosure 1 forms overlapping openings A, C, D and E. They went on to say, "Thus, Disclosure 1 teaches away from amended claim 1, because openings A, C, D and E are overlapping non-distinct features."

Now, I realize that the crux of this dispute is that plaintiffs want to read that as overlapping and non-distinct, that these are two separate things; but that's not what the applicant argued. This paragraph -- they don't point to any other distinguishing characteristic of those feathers.

In the examiner's obviousness rejection, the examiner had characterized the openings A, C, D and E as coincident. They used a different language, "overlapping"; but they bought into the examiner's characterization. And this was addressed in the *Biogen*

case that we cited in our brief. That's at 713 F.3d at 1096. There the court was dealing with a rejection for an antibody where the applicant had a non-enabling disclosure. The applicant said, "Well, you know, I have taught at least these portions of this antibody."

Later they tried to argue that because they had dependent claims that were broader than the portions that they argued to the Patent Office, that under the doctrine of claim differentiation, their earlier independent claim couldn't be limited to what they had urged to overcome the rejection.

And some of the arguments centered around some slight differences in language that they had used versus the language of the examiner, and the court rejected that and said there is a public notice function to the prosecution history. And the applicant is, you know, on some notice that it's their obligation to challenge the characterization of the examiner and make it clear what was actually prosecuted.

THE COURT: Would you agree that this is not clear, that whether that means overlapping and non-distinct or the reading that you're proposing is -- it doesn't appear to me to be completely clear.

MR. CUNNING: I think that when the applicant stated that these features are overlapping openings and

that's the only objection that they raised and then say, "Thus, Disclosure 1 teaches away from claim 1" -- I mean, that sentence follows from the sentence prior. "Thus, the disclosure teaches away from claim 1" and "because openings A, C, D and E are overlapping non-distinct features." I think it is clear that what they are arguing is that "overlapping" and "non-distinct" are used interchangeably there.

And we also said that it can't mean "distinguishable." That's -- those are distinguishable features. So, for them to say that they are non-distinct doesn't square with the court's preliminary claim construction.

THE COURT: All right.

MR. CUNNING: I'll yield the rest of the time to plaintiffs and reserve some for rebuttal.

THE COURT: All right.

MR. VOSS: All right. So, for this term, your Honor, we agree that this doesn't -- well, DSS contends that this disclosure in the prosecution history doesn't amount to a clear disavowal, that this is not clearly delineating what "distinct" means.

And for support of that, there's a very strong claim differentiation argument from what issued as claim 12 with regard to the "method of claim 1, where the

first and second features do not overlap." So, the defendants are trying to take a prosecution history disclaimer that is not clear and make it clear in view of dependent claim 12. That's just improper.

Further, you can see from on Disclosure 1 that A, C and D -- A, C and E on that left side, they are distinguishable. They do have different geometries, from the top-down, which is what plaintiff proposed as its construction. Plaintiff's view is that the court's construction is consistent with the prosecution history; and it is basically that simple, that it's a claim differentiation argument and that the prosecution history does not rise to a clear disavowal of claim scope.

THE COURT: All right. Any response?

MR. CUNNING: Yes, your Honor.

Just briefly with respect to the claim differentiation argument, we've cited several cases that that is a presumption only. It's not an absolute doctrine of claim construction. And the Federal Circuit has held on multiple occasions that prosecution history disclaimer will trump a claim differentiation argument and that the applicant -- again it goes to the notice function and what -- people are entitled to rely on arguments made during prosecution. They cannot argue that a disclosure is not sufficient to render the patent

invalid, arguing that it teaches overlapping features and then turn around and through the, you know, artifice of adding a dependent claim capture back everything that they just surrendered during prosecution.

Both the *Biogen* case -- again we direct the court to that case -- and the *Fenner* case talk about -- the *Fenner* case is a case that we did not cite in our briefing but was recently issued from the Federal Circuit. The cite -- excuse me one...

THE COURT: All of that is premised upon it being a clear disavowal in the prosecution history, right?

MR. CUNNING: Well, yes; but, again, I would say that if "distinct" and "overlapping" do not mean the same thing, there is still a problem with "distinguishable." I mean, plaintiff stood up here and admitted that those features are distinguishable. So, to then argue that those features are non-distinct makes no sense. You cannot square that with the court's claim construction.

So, it must mean something less than "distinguishable." "Distinct" and "distinguishable" can't be squared together. And I didn't hear, you know, they propose to square the arguments made in the prosecution history with the court's construction of

"distinguishable" features.

THE COURT: All right.

MR. CUNNING: Thank you, your Honor.

THE COURT: Thank you.

MR. HURT: Good morning, your Honor. Christian Hurt again for DSS.

I want to talk about "stabilizing the first patterned layer." We can live with the court's construction. A little bit of a background on where this has been a little bit of a moving issue. We proposed about a week ago the exact construction the court here has proposed, which was the PTAB's construction. We let the defendants know that we could live with that.

They got back to us and wanted to construe the word "render" in that construction. It's another non-infringement play. They want to construe a construction of "render" to mean "change or alter the properties of the first patterned layer." We think that is improper for a number of reasons.

First is we're construing a construction. We're already in the land of where we're getting removed from the claims themselves. Ultimately whether their process that we call "stabilizing" renders -- meets the "rendering" language in the claim construction, that's the ultimate infringement question. That's a fact

question. That's a summary judgment question. That's a jury question. That's not a claim construction dispute. And they'll get up here and argue why they think it is, but they are not going to point to you to any part of the patent that defines "renders" as "changing or altering the properties of."

So, the claim term, if you look at it, is actually "stabilizing the first patterned layer." That's what we're talking about. And as I just mentioned under the *Edwards* case and others, the Federal Circuit has repeatedly said that ordinarily courts do not construe words that aren't in claims.

"Render" is not in the claims, and the defendants never proposed this "changing the properties of" limitation as part of their proposed construction for "stabilizing." We only sort of ferreted this out when we had the back-and-forth about the PTAB's construction because initially the dispute was the disjunctive versus the conjunctive and what the stabilized material can withstand and not this sort of separate issue about what it means to render a material.

So -- next slide.

And this is an interesting thing because we're actually using what the defendants have used in their IPR petitions to support our construction. The patent

expressly says in Column 4, "Any suitable stabilization technique may be used." It doesn't say "one that changes or alters the properties of the material." There is nothing in there that has that limitation.

All that the different embodiments show is that the stabilization renders the material "able to withstand subsequent lithographic processing steps." There is nothing that says that the rendering requires a transformation that changes or alters the properties. Indeed, the ordinary term meaning of "rendering" is much more akin to "results in" or "makes"; and here they're trying to limit it to a specific type of process. There is nothing in the patent that warrants that.

Unless the court has any questions, I'll sit down and let the defendants respond; and then I'll have probably a brief response to their argument. Thank you.

THE COURT: All right, Mr. Hurt. Thank you.

MR. HARPER: Thank you, your Honor. David Harper again for the defendants.

The construction that the court has proposed is the same construction, we understand, from the PTAB's Institution Decision. And what we would like to point out is in PTAB's construction, they construed the words "stabilize" or "stabilizing"; and this construction is "stabilizing the first patterned layer."

And as the court has already heard this morning, there's a great dispute, a chasm, between us about which layers are we talking about and what's being operated on in this patent. And, so, what's very important for this construction is that the words -- if we're going to construe the term "stabilizing the first patterned layer," which is what the parties agreed to construe and submitted, we need the words "first patterned layer" in this construction because we are very concerned that DSS is going to argue using either the word "render" or using the word "material," that we're talking about some different layer. And that is absolutely not what this patent talks about, and it's not what we understand the court to be construing in its preliminary ruling.

Their initial construction -- you can see from their initial construction which we have on the slide, on 85, that they get into this whole issue of subjecting -- there they talk about "the first imaging layer to a process that when completed."

So, they're trying to move into lower layers and getting away from the patterned imaging layer; and, so, that's why it's so important in this construction to have the words "first patterned layer."

This again, the Slide 86, shows what PTAB's

construction was. Again they construed "stabilizing," not "stabilizing the first patterned layer."

It's true that because of the concern of this issue about which layer we're talking about, we are concerned that DSS was going to either use the word "material" or use the word "render" in the construction from PTAB to try to get at these lower layers and it wouldn't be clear. And, so, that's why we brought up the issue about "render" which means "cause to be or become." And, so, a modified PTAB construction at a minimum would have the words "first patterned layer" in two places.

"Performing any process on the first patterned layer that alters the properties of the first patterned layer so that it is able to withstand subsequent lithographic processing steps." At a minimum, it would say -- even if we don't use the concept of "render," this definition of "render" -- "performing any process on the first patterned layer that renders the first patterned layer" -- or "rendering the first patterned layer so that it is able to withstand subsequent lithographic processing steps." It needs to be clear where the stabilization is taking place, your Honor.

THE COURT: Why does the construction need that reference to the "first patterned layer" after

performing any process? In other words, isn't the crucial thing whether the process stabilizes or renders the first patterned layer able to withstand the subsequent steps?

MR. HARPER: Well, it is true that -- certainly the words "first patterned layer" need to be in this construction if we're construing the term "stabilize the first patterned layer." But clearly the patent talks about this, your Honor.

"Render," first of all, is talked about in the specification -- this is Slide 88 -- where "rendering" means altering the properties of something. This is not talking about the first patterned layer with this language at Column 5, 24 through 32.

But very specifically, Column 5 at 12 through 22 talks about where the stabilization process is taking place. It is taking place on this first patterned layer. It says, "Stabilizing positive photoresist for first patterned layer serves to neutralize photoactive compounds in the photoresist of the first patterned layer." So, the process of stabilization is taking place, is operating on that layer. So, that is why we think that the words "first patterned layer" actually should be in two places in the construction to make it clear that that is where the operation of stabilization

is taking place.

It also says further in the specification, at Column 6, 51 through 63, that because the stabilization step allows this first patterned layer to withstand subsequent lithographic processing, it can withstand development.

So, at the end of Column -- at 6, 51 through 63, it talks about, "As first patterned layer 232 has been stabilized, first patterned layer 232 is relatively insoluble." So, it's talking about this concept of that's the layer that's being changed, that's being transformed. It's having a process operated on it, not somewhere else, not some unknown other place. It's happening there on that particular layer.

THE COURT: Well, would that suggest that the process can't operate on anything else at the same time?

MR. HARPER: Not necessarily, your Honor, but -- not at lower levels -- not lower layers. It is definitely operating on that layer. And, so, that's why "first patterned layer" absolutely needs to be in this construction and, we would submit, in two different places.

And the issue is that DSS continues to focus on these underlying layers; and their original construction says that, that they want to get to these

underlying layers. And Mr. Bobrow already went through these slides to talk about how the operations of the patent are all talking -- are all operating on layer 220 which leads to this feature which then is stabilized as reflected in the figures of the patent.

And Figure 1 also talks about stabilizing the first patterned layer.

Anyway, DSS continues to focus on this; and I'd like to show the court, if we would move to -- let's get the slides.

I think these figures help illustrate what DSS is talking about and why it's so important to have this language in the construction. DSS's construction originally is looking at some later layer. And, of course, the figures reflect the operations at layer 220 leading to a feature that stabilized 232, the remaining portions of this imaging layer.

But their construction of "stabilizing" would appear like this; and, of course, this figure is not in the patent. It shows what would be the stabilized feature, feature 232; and they want to use an etching process, which etching is never talked about as part of stabilization. It's a different technology. We're not talking about using acids in this patent, those sorts of things. We're talking about operations on a photoresist

or an imaging layer in photolithography.

But they want to talk about stabilizing as resulting in this lower layer where there is an etching process, and there is nothing in the patent that talks about that kind of a process. Again, stabilizing is never described as etching.

But in their own tutorial, they show this; and this is why it's so important to us that "first patterned layer" needs to be construed. You see that as you go through the patent, you have a photoresist -- again their tutorial. A photoresist is applied, and then there is a mask and exposing to radiation and development.

And then they include etching, which is never talked about as part of this step in the patent, to get to this underlying layer

And then what do they reflect is stabilization? That first patterned layer completely goes away. The remaining imaging layer that has been patterned goes away to get to an underlying layer, the hard mask. That's what they want a construction to mean for "stabilizing," which is absolutely not what the patent talks about and it's why, at a minimum, "first patterned layer" needs to be included in this construction. We would submit that it should be included in two different places, both at the beginning and in the

middle of the construction as indicated to the court. Thank you.

THE COURT: All right. Thank you, Mr. Harper.

MR. HURT: Your Honor, I'd like to actually go back to what the patent says. And you're exactly right. The term is "stabilizing the first patterned layer." The defendants in this case are trying to put in this layers issue, and you saw it in Mr. Harper's presentation. They're trying to reinject this layers question in the "stabilizing." But the claim language already requires stabilizing the first patterned layer, and the PTAB did not construe "stabilizing" in the Abstract. The only time "stabilizing" is in the claim is in step (c), "stabilizing the first patterned layer"; and we think the PTAB's construction is absolutely right. The portions of the specification that Mr. Harper pointed to for "rendering," none of those limit the term "rendering" to a changing or altering of properties.

THE COURT: Well, let's talk about the "material" in the construction that the PTAB developed and that I have proposed here preliminarily. Where that construction refers to "renders a material," do you agree that the material is the first patterned layer?

MR. HURT: I do. Under the claim it is "stabilizing the first patterned layer"; and the material

that is stabilized -- the patent talks about stabilized as "able to withstand subsequent lithographic processing steps." What is able to withstand subsequent lithographic processing steps is the first patterned layer.

Now, there is this dispute about is the first patterned layer limited to the portions of the imaging layer or not, which I think is a separate question. And that's what the defendants are trying to load into this construction as well with Mr. Harper walking through our technology tutorial and kind of driving home their LELE noninfringement argument.

But I agree that the material referred to is the first patterned layer, and the first patterned layer is in the claims. I don't think we have to, you know, repopulate it in the actual jury charge, given that it is also a separately construed term.

THE COURT: Well, I do understand his point that if we are construing the whole phrase and we don't use "first patterned layer," then that could be problematic; so, I --

MR. HURT: I mean, your Honor, the plaintiff -- we would be fine with if instead of the phrase "stabilizing the first patterned layer," the PTAB's construction of "stabilizing" is used and the

"first patterned layer" portion is not in the court's construction since it's a separate term.

THE COURT: Okay. And I understand that there is a dispute about that, the meaning of "first patterned layer"; and that's something we'll have to address.

MR. HURT: Right. And I won't go through our slides on that issue again, your Honor; but obviously I just wanted to flag that dispute.

The real dispute here is the "rendering" issue, and I didn't see anything in the patent that defines "rendering" the way they want to define it.

THE COURT: Okay. Thank you, Mr. Hurt.

MR. HARPER: Your Honor, very briefly. Certainly stabilizing is not etching. It's not removing. It's stabilizing. And the patent talks about "stabilizing the first patterned layer" and that's why we believe that the term "first patterned layer" should be in the construed term two times to make it clear. But certainly at a minimum your Honor is correct that where the "material" is if we are construing this phrase, it needs to say "first patterned layer" there.

Certainly we can argue about what "first patterned layer" means. That's another argument that's being made. But to be clear, we need that term in this

construction. We would proffer that it should be two places. Certainly, as the court understands, the words "a material" should at a minimum be replaced with "first patterned layer." Thank you, your Honor.

THE COURT: That you, Mr. Harper.

MR. VOSS: Your Honor, for "the second patterned layer and the first patterned layer form a single patterned layer," Plaintiff DSS can agree to the court's construction of plain and ordinary meaning.

THE COURT: All right.

MR. BOBROW: Your Honor, Jared Bobrow again for Samsung.

With respect to "the second patterned layer and first patterned layer forming a single patterned layer," the court's preliminary construction is "plain meaning"; and the concern we have with that construction, your Honor, is that the parties when they set forth their alternative constructions made, I think, crystal-clear that they have a disagreement about what this term means. And we're concerned that this dispute is simply going to arise later and that we'll be back in front of your Honor seeking clarification, seeking a construction of this term, because the parties appear to have a meaningful dispute about what the term means.

Certainly for the defendants we believe that

the language, "the second patterned layer and the first patterned layer forming a single patterned layer," is indeed clear. There is no question that it is clear language and we think that the proposal that Samsung has provided makes that clear and I'll explain why in context in just a minute.

DSS's construction, though, shows that the parties have a material difference and dispute over what that plain meaning is because they are saying that the "single patterned layer" means a "single layer, even if the patterned features are from more than one imaging layer."

And the dispute in principle appears to be that under DSS's construction, you could have this single patterned layer within the meaning of the claim and that implicitly or explicitly from their construction and understanding, that single patterned layer could be from simply one layer because they are saying even if it's from more than one layer; so, that implies that it could be from one layer or from more than one layer.

We dispute that, and we think that the patent is fundamentally inconsistent with that. And that's the crux of the dispute that I think we have with the plaintiff over what the ordinary meaning of this phrase is, and that's really what drove the construction that

Samsung provided.

And let me explain, because we submit that the patent is very clear that that single patterned layer comes from what remains of the first patterned layer after you do the patterning and stabilization and what remains of the second imaging layer after you do the patterning that is called out of the claim.

THE COURT: Is your concern that something has to remain from the first patterned layer? Is that what you're getting at or what?

MR. BOBROW: That is part of it, your Honor.

The claim, we submit, makes clear that that single patterned layer comes from the stabilized first patterned layer and what remains of the second patterned layer; that is, after you've done the patterning on the second imaging layer, you've got the second patterned layer.

And let me just, if I might, just have the claim up and just walk through the claim a bit to explain why we think that there have to be those two layers that make up the single patterned layer.

So, we start in step (a) with the formation of the imaging layer. That layer is then subjected to patterning, and we've been through those terms. We've also been through the "stabilization" term.

But the point is that you have some chunk of that first patterned layer which has been stabilized, and the point of that stabilization is so that it remains -- and there seems to be no dispute about this -- so that it remains and can withstand the subsequent lithographic processing because in steps (d) and (e), you are then performing another round of lithographic processing. You are now performing processing on the second imaging layer, and you want that stabilized first patterned layer to remain. That's what the patent talks about repeatedly, over and over again, is what this patent is about is making sure that that stabilized first patterned layer remains.

So, now we have the formation of the second patterned layer through the patterning of the imaging layer. And what you then have is a "wherein" clause. You have a "wherein" clause after you form that second patterned layer, wherein. Now, this is really the key part of it. We're now talking about the second patterned layer. What is that referring to? That's referring to the second patterned layer that you just formed. That's an already formed layer. And when we're talking about the first patterned layer, that's not just any layer; that's the layer that was formed and stabilized up above.

And, so, what the patent is saying is I've got these two layers that exist. I've got the first patterned layer, the second patterned layer. Those exist. Wherein -- so, what does that all mean? Wherein? It means that you've got the second patterned layer and the first patterned layer forming that single patterned layer.

So, from this we submit that the single patterned layer when the patent is talking about -- and the claim language that we're construing is this entire phrase, "the second patterned layer and the first patterned layer form a single patterned layer." What that's talking about is that those two layers that have been patterned form that single patterned layer.

The dispute then, your Honor, is that when you go to DSS's construction, what they seem to suggest is the plain and ordinary meaning is that you could actually do this -- you have a single layer of patterned features, but that could be from more than one imaging layer; or it could be, implicitly then, from a single imaging layer. And the claim language itself and the specification make clear that that single patterned layer results from the patterning of the first imaging layer, its stabilization; and then you've got that second patterned layer.

The argument that I think DSS has made is that, well, this phrase "single patterned layer," those three words were construed at the Patent Office and there was testimony at the Patent Office about what that means and indeed those three words -- a construction was offered with this quoted material, what DSS has offered.

But what the parties have asked the court to do is not simply to construe those three words, "single patterned layer," in isolation where indeed this is a reasonable construction of those three words. What we've asked the court to do is construe "single patterned layer" in the context of the claim and in the context of the phrase that includes the words "the second patterned layer and the first patterned layer form a single patterned layer."

And, so, the construction then of the "single patterned layer," those three words alone, is simply not sufficient. But it does suggest the parties have a dispute about what that single patterned layer is, and that's simply why we've asked the court to offer an express construction rather than leaving the parties to fight about what this term means down the road, perhaps in the context of some later motion or other proceeding before this court. Thank you.

THE COURT: All right.

MR. VOSS: Your Honor, DSS again agrees that the court's construction of plain and ordinary should control. TSMC proposed the exact construction for "single patterned layer." Yes, it is true that the claim language that the defendants seek to construe contains "the first patterned layer and second patterned layer form a single patterned layer," which is different from the phrase that TSMC provided in their IPR petition. But the language preceding that phrase in the claim language doesn't need construction because it is clear on its face that the first patterned layer and second patterned layer form the single patterned layer.

Now, there is obviously a dispute on what constitutes the first patterned layer and second patterned layer that we've been over a lot today; but the defendants have nowhere pointed to where the word "form" needs to be construed such that the ordinary meaning doesn't control. There is no limitation in the specification that says "to form" must mean "remains with." Because there is no disclosure of that nature, the ordinary meaning should control.

THE COURT: But do you -- all right.

MR. BOBROW: Your Honor, the issue that again I think we have, it's a bit akin to the issue that was just argued on "stabilization" because if you take a look

at what DSS thinks the plain and ordinary meaning is, it's saying it refers to a single layer of patterned features, not saying where that pattern is from or whether it's the first patterned layer or the second patterned layer, even if the patterned features are from more than one imaging layer.

Again, that's not what we're construing here. The parties have asked the court to construe "the second patterned layer and the first patterned layer form a single patterned layer." And, so, the concern again that we have is that there could be uncertainty or ambiguity down the road about what we're exactly talking about, which features, which layers, and which patterns.

And we think that by adopting the proposal that Samsung has made would make crystal-clear which patterned layers are under discussion and what is being formed and what patterned layers are there; whereas, the DSS view of it is quite -- is much more abstract and generalized and not specific to the context of the claim term that is being disputed here. And that's our concern.

But with the Samsung construction when you have in there "the second patterned layer and the first patterned layer," it makes it clear what we're talking about. When you have the DSS construction, it's talking

about, you know, one imaging layer. It's talking about patterned features. Again, we don't know what those are because they are not tied to the entire phrase that is under construction.

THE COURT: Your proposed construction just adds -- basically adds in the word "remains"?

MR. McCABE: Yes, your Honor. In a sense that's right. It's saying that we have these layers that have been formed after patterning and stabilization. Those are the patterned layers. And what the patent says quite repeatedly in the specification is -- and it even uses that phrase, "what remains." It's talking about how you have those layers and you've done the patterning and now we're seeing what's left.

What's left at the end of the day, after you've done all of that patterning and stabilization, is you've got that first patterned layer and you've got the second patterned layer. And then the claim says "wherein" those things form the second patterned layer. So, indeed, it's the -- the first patterned layer remains with the second patterned layer, and that's what forms that single patterned layer.

THE COURT: And you think that the word "remains" needs to be in there in order to exclude a situation where there is nothing remaining of the first

patterned layer or what -- I'm just trying to get at what -- how that improves on the claim language itself.

MR. BOBROW: So, I think the way that it improves on it is that what it's doing is making clear that I have patterned this first patterned layer and I've stabilized it. And I think the notion of what remains is keyed off of the stabilizing step because the point of the patent is you want all that stuff from the first patterned layer to remain. That's the goal of the patent, and that's what is specifically claimed. I stabilize it so that it can withstand the subsequent processing.

And, so, we think that the language "the first patterned layer remains with the second patterned layer" tells you that I have that layer that I have formed and I have taken additional steps to ensure that it's going to survive. And that's what this language is designed to capture. I've ensured it survives. It is there. I do my second patterning step. That remains. And the clause is "wherein" I've got that remaining stuff. That makes up the single patterned layer.

THE COURT: So, are you trying to ensure, then, that the stabilizing step occurs before the step in (e) that we're addressing here?

MR. BOBROW: Well, indeed it will occur before

the step in (e); and that's clearly what is claimed in the patent. And also what is taught in the patent is that the stabilizing of the first patterned layer takes place before you do the patterning of the second imaging layer to form the second pattern because the entire concern of the patent is that you have that first patterned layer; and the fear is that if you don't stabilize it, then when you deposit and pattern that second imaging layer, it's going to go away, that something is going to happen to it that's going to either damage it or remove it or take portions of it away. And that's what the patent tries to avoid by doing an extra step in a semiconductor process which, of course, adds cost and adds complexity. But the point is you want to take that extra step to make sure that that first patterned layer survives.

THE COURT: And is that what you believe that your proposed construction ensures, is that the first patterned layer has already been stabilized?

MR. BOBROW: The first patterned layer has been stabilized and it survives, yes. The first patterned layer has been stabilized and survives. And then you have that subsequent patterning step, and that forms that second patterned layer. And it's the combination of those two things that then makes up that

single patterned layer because those are the two things that have survived this processing. Those are the things that exist, and then they make up that single patterned layer.

THE COURT: All right.

MR. BOBROW: All right. Thank you.

THE COURT: Thank you, Mr. Bobrow.

MR. VOSS: Just a quick response to defendants. I think it's clear from the argument on this term that what's really being argued is what is the patterned layer again. We're just retreading that.

Stabilization, the fact that the first patterned layer and second patterned layer form the single patterned layer, that's already in the claim language. Defendants are just trying to construe "form" as "remains with." That's inconsistent with the fact that the first patterned layer can include features and spaces. And, frankly, there is no disclaimer on what "form" means in the patent to make it be restricted to the "remains with" language.

THE COURT: Okay. Thank you.

MR. HURT: Your Honor, Christian Hurt again for DSS.

On the last term we obviously agree with the court's resolution. The defendants haven't proved that

term indefinite. So, I'll let the defendants address that term first; and I'll respond.

THE COURT: All right.

MR. LANG: Good morning, your Honor.

THE COURT: Good morning, Mr. Lang.

MR. LANG: The claim term at issue here is "wherein the first and second features which are formed relatively closer to one another than is possible through a single exposure to radiation." And the language I want to focus on that's the real problem here today is "possible through a single exposure to radiation." What is possible?

And this language directly defines the scope of the claim. As you've seen this figure a lot today, the first feature and the second feature, by this claim language, must be closer together "than is possible through a single exposure to radiation." If it's closer, it meets the claim language. That's part of it. If it's outside, then it falls outside the claim scope.

So, under *Nautilus* what is possible must be defined with reasonable certainty. Now, what is possible in this context, your Honor, depends on a host of factors. Dr. Blanchard had testified to not only does it depend on the equipment but what technique is used, the type of radiation and then, even outside of the

equipment, the process such as the photoresist used.

And, your Honor, at this point I would like to, if I may, proffer some additional testimony from plaintiff's expert. This testimony was included in the 4-3. We notified the defendants on Sunday that we wanted to present some of that testimony. I have copies of that if I can approach the bench and present it to the court.

THE COURT: All right. Is there any objection?

MR. HURT: No, your Honor. I mean, they could have put this in their brief. They didn't. But they can obviously --

Do you have a copy for us?

MR. LANG: Yes.

THE COURT: All right. Then you may hand it up to the clerk.

MR. LANG: Your Honor, I'll point out in that slide one quote from Dr. Mack's article that I just handed you. The article is from Dr. Mack, which is plaintiff's expert, a 2004 article. And what's key about this is this article, of course, was before this litigation. And before this litigation plaintiff's expert, Dr. Mack, agreed with Dr. Blanchard. In this article he described, "The resolution limit of optical

lithography is not a simple function."

And I'd like to now provide some detail on why Dr. Mack describes that it is not a simple function.

Oh, your Honor, I'd like to, you know, offer the testimony and exhibit that I just handed you into the record.

THE COURT: All right. You can. What I'll ask you to do is to e-file it, but that will be fine.

MR. LANG: Okay. Thank you, your Honor.

So, turn back to Dr. Mack's statement that "The resolution limit of optical lithography is not a simple function." He later in his article describes why, and I'll start that explanation with actually a slide from plaintiff's tech tutorial that today -- they didn't have an opportunity to present today. But I have a feeling that plaintiffs will address this; so, I'll put this up on the Elmo.

All right. Your Honor, in the plaintiff's reply brief, for the first time, you heard a lot about a brick wall; and they described what is possible is a brick wall. And now what the plaintiffs have said is there is this equation that explains what the brick wall is, what's possible. And this is Slide 9 of their presentation.

And in that equation they say what is possible

is this equation K_1 over the wavelength of the tool over the aperture. And K_1 is what I want to focus on. That is, in part, what defines what is possible.

Now turning back to Dr. Mack's article -- well, your Honor, I'll read this in. This is following Dr. Mack's statement that the resolution is not a simple function. He goes on to explain this equation and this K value and states, (reading) K depends on the details of the imaging process. Ultimately K can be as low as .5 but only with tremendous effort. Values of .8 to 1 are more typical today.

So, your Honor, we're not talking about the case where it's approximately, substantially. We're talking about a value that can double. What is possible, by plaintiff's expert's own testimony, with a lot of work, can double or can be cut in half.

And turning back to Dr. Mack's testimony, he detailed all of these factors that affect what is possible. On the right there you see the tool, the wavelength of that tool. But it's not just a system. You have the lithography process, the type of feature, and then in the more grand rule on the left these techniques, how you apply the illumination, the properties of the mask. You've heard a lot about the mask today. Likewise, with the photoresist, not only

the photoresist type but how it's deposited, how it's baked, and then the specific parameters within this process.

Now, the experts agree there is no question of fact. All of these factors affect what is possible. This is a classic case, your Honor, under *Halliburton*, where the claim limitation, the claim scope here, depends on a wide variety of factors. And making an infringement determination requires looking at all of these circumstances, and the outcome is going to differ depending on all these different circumstances. And in that case a construction of the term is likely to be indefinite.

THE COURT: Isn't it true that any system that is used will have a maximum closeness that can be achieved?

MR. LANG: That's the problem. It's who is using the system and what is possible. As Dr. Mack testified -- and I'll get into this --

THE COURT: But my question is: Whatever system is being used, it will have a limit, right?

MR. LANG: Your Honor, I'll make two points on that.

THE COURT: Okay.

MR. LANG: One is there may be some

theoretical "pie in the sky" limit, but that's not what's possible to a person using the system. And the claim language says what is possible. That's my second point is that the claim language says what is possible.

And as Dr. Mack's article explained, it could vary. It could double, actually, with a lot of work.

THE COURT: You can change the system in order to get different results. But I thought that even your expert testified that one of ordinary skill would understand that this is talking about the limits of whatever system is being used.

MR. LANG: That's right, your Honor. Here is the key point. He had said in his declaration that maybe this -- or this limitation refers back to the system of the patterning steps. But that doesn't solve the problem because you can take -- for two big reasons. You can take that given system and you can tweak it, you can modify it, and you can get a better resolution. And then the second point is the system aside, there is the process that you're using, the type of photoresist, the type of mask, the type of feature that you're printing. So, there are really two problems, the optimization of the system and then, secondly, the process.

And the problem -- the real problem here is the specification never describes how you gauge what is

possible. In fact, it recognizes that many factors affect what is possible. It identities -- the one passing reference is it states the resolution "may depend" -- "may" -- "on the lens." So, it really expressly recognizes that many factors are going to affect this.

Now, the file history, likewise, doesn't provide the criteria or the factors to gauge what is possible. The plaintiffs have cited portions of the file history; but, if anything, it adds confusion because the file history is referring to the reference, the sizes of images that you're printing, not how close those features can be together. And, importantly, nothing -- no part of that file history describes what "what is possible" means.

THE COURT: You know, it seems to me that this method is designed to be used with lots of different -- techniques? I don't know what the term is I'm looking for but -- and that whatever the limits are of those techniques, this method is designed to improve upon that.

MR. LANG: Yes, your Honor. We agree with that. The problem is that what is the limits. We're not arguing that the system -- or the claim is limited to a particular type of system. What we're arguing is the claim language "what is possible" is indefinite. If the

claim said a "theoretical limit" or something like that, then it might be a different story

And, you know, interestingly -- I'll just flip to, you know, what is possible for a given system. It really becomes subjective. If you look at Dr. Mack's opening declaration, he states what is able or what is possible is in the context of a manufacturing environment. But then he testified what is possible in a laboratory is different than a manufacturing environment.

Now, the theoretical limits might be the same; but that's not what's claimed. Dr. Mack also testified that engineers can tweak and optimize a system to make possible even closer features.

So, we're stuck with this claim language "what is possible" and it becomes a moving target and it is subjective depending on who is using the system. And when you have subjective terms, which this clearly is given Dr. Mack's testimony, you have to have a standard in the specification or the file history to say how you gauge or how you figure out what is possible. It's not in the specification. It's not in the file history.

And just to kind of put an exclamation point on it, what we're left with, your Honor, is what is possible in life is not too different than a lithography

system. As the famous quote attributed to President Roosevelt, "With self-discipline most anything is possible," that's essentially what Dr. Mack, plaintiff's expert, said. With a lot of work, you could double that K factor. You could cut it in half. So, all of a sudden what is possible is not varying by a couple percent but varying or being cut in half. Thank you, your Honor.

THE COURT: All right. Thank you, Mr. Lang.

MR. HURT: Good morning, your Honor. Christian Hurt again for Plaintiff DSS.

This issue has been a bit of a moving target when this morning for the first time one of Dr. Mack's papers was relied on, other testimony from his deposition, none of which made it into their response brief, all of which could have.

Initially the defendants argued that this was a term of degree because their expert said so, and then they walked away from that in their brief. This court has held before that terms like "closer," "relatively closer," you can actually decide -- you can actually determine objectively if something is closer to each other than not; and the defendants' expert in this lawsuit agreed with that at his deposition.

This isn't a subjective term. This isn't a

question of what I think is possible versus what your Honor thinks is possible. This is a question of what is possible with the machine. And the defendants' expert in this case agreed that the construction of that term was using the system, do you beat the resolution for the features that you're making. And I asked him -- and so here it is on the slide. "It is my opinion that one of ordinary skill would understand that" this clause "means that the features must be a distance apart that is smaller than the resolution distance of a system that is being used to perform the patterning steps." That's from the defendants' expert.

Now, I asked him and asked Dr. Mack for every machine they have ever worked on, what's the resolution limit of that machine; and they gave me an answer, 250 microns, 500 microns, 1 micron, 800 nanometers. The ones they didn't give me an answer were -- the answer was never "I don't know because it's so complicated" or "because it's subjective." The answer was "I don't know because I don't remember."

And if you look at Dr. Mack's article that they are relying on now, it says that the exposure limit is not a simple function. That doesn't mean it's unknown, doesn't mean that someone couldn't figure it out.

And then his declaration is completely consistent with that. He said, "For a given imaging tool" -- and it sounded like the defendants have now conceded. This was the main point of their response brief. You don't know which tools you're using. But Mr. Lang -- I think I heard him say that what is possible is linked to the patterning steps.

Dr. Mack explained, "For a given imaging tool" the single exposure limit is "well known and easily discernable."

I asked him about that at his deposition. I said, "Do you agree with that statement?"

He said, "Yes."

And do you agree with that statement when you are looking for the single-exposure resolution limit between two features?

"Yes."

Is that correct for every imaging tool ever used from '94?

"Yes."

From 2008?

"Yes."

Today?

"Yes."

That is undisputed. There is nothing in the

record that indicates that these limits cannot be measured. The measurements are complicated, yes; but nothing says they can't be measured.

We'll go to the next slide.

The prosecution history supports this view. In it there wasn't just a recitation of a term by the examiner in the claims. There was actually a back-and-forth on this exact claim term. So, the patentee added it during prosecution to distinguish what was called "IBM Reference Number 2." And in that reference there was a disclosure of using a high-resolution tool, the E-beam tool, for one part of a chip and an optical write tool, which was a low-resolution, from another part.

And the examiner said -- this is from our opening brief. And the examiner first said that this met the "relatively closer" limitation. And then the patentee explained no, it doesn't because one section of the chip uses 250 micron images, one section uses 500, but nowhere are you getting better than 250. And the examiner agreed with that and allowed the claims.

Nowhere in that back-and-forth was there any indication or discussion that resolution limits can't be measured, are unknown, are subjective. The defendant has never made that allegation in their briefs until today

about the K factor and things like that.

But even if that's true, those numbers can be determined; and the record bears that out. I mean, every time I asked both Dr. Blanchard and Dr. Mack, "What was the resolution of that system you worked on at MIT," "It was 10 microns." These are things that people of skill in the art know.

And, you know, because Mr. Lang can put up an article that says, well, there's a lot of factors involved, the record bears out that those of ordinary skill in the art know what those factors are; and Dr. Mack explained how this limitation is met. For a given system, what's the highest resolution lithography tool for a single exposure? Everyone knows what that is for a given system, a given processor. Do you beat it or not? And, so, I agree with the court's view that this term has failed to be proved indefinite.

I would like to maybe make one very brief point about where we are procedurally. The defendants are seeking essentially summary judgment on this. Under the Supreme Court's recent *Nautilus* decision and the *Teva* decision, indefiniteness has underlying factual components. We've laid out all of the underlying factual disputes.

Defendants actually have two invalidity

experts. They have Dr. Blanchard and Dr. Smith. They opted not to use Dr. Smith for this. His declaration in the IPR actually conflicts with Dr. Blanchard's declaration. Everyone disagrees on what the level of ordinary skill in the art is. The experts seem to disagree about what the specification teaches. There is a disagreement over what the prosecution would teach one of ordinary skill in the art. Under *Nautilus* these are all fact questions, and there has been no showing that there has been genuine issue of material fact on that.

The last point is post-*Nautilus* the Federal Circuit in the *DDR* case to determine indefiniteness took a full view of the record in the case. What did the infringement experts say? What did the invalidity experts say? They took trial testimony for the Federal Circuit to say, "Look, you haven't shown that this term is not reasonably clear. Even your invalidity expert knows what it means. The infringement experts know what it means, non-infringement expert."

We're not at that stage; and, so, should the court go off of its tentative, I think the court should, you know, not resolve this issue at the summary judgment stage. They certainly haven't put enough evidence in the record to show there is no genuine issue of material

fact.

THE COURT: All right. Thank you, Mr. Hurt.

MR. HURT: Sure.

MR. LANG: Your Honor, a brief response?

THE COURT: All right, Mr. Lang. I'll give you the last word.

MR. LANG: Thank you, your Honor.

Your Honor, we've heard a lot about a system, but two points on that. This is a method claim; so, somebody has to be performing the method. And that's important because the testimony we heard from plaintiff's own expert, what is possible to somebody in a research lab is different than what is possible to somebody in a manufacturing environment.

And we've heard a lot from the plaintiff's counsel about the resolution of a machine, but both experts agree and Dr. Mack agrees that it's not just a system but it's the process that matters. That K that we talked about, that varies from .5 to 1 based on the process. That's separate from the machine. So, this isn't a case where approximately, about, we're talking a couple percent. We're talking about a value that can literally double.

The last point, your Honor, there is no dispute of fact. We've essentially just relied on what

the experts have agreed on and plaintiff's own expert, Dr. Mack. Thank you, your Honor.

THE COURT: All right. Thank you, Mr. Lang.

I appreciate your arguments and I understand that the additional material that was offered on this point will be e-filed and I will get a ruling out as soon as possible. So, thank you; and we're adjourned.

(Proceedings concluded, 10:55 a.m.)

COURT REPORTER'S CERTIFICATION

I HEREBY CERTIFY THAT ON THIS DATE, MARCH 5, 2015, THE FOREGOING IS A CORRECT TRANSCRIPT FROM THE RECORD OF PROCEEDINGS.

Christina Bickham

CHRISTINA L. BICKHAM, CRR, RMR

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