

**In The Matter Of:**  
*Taiwan Semiconductor Manufacturing Co., Ltd. v.*  
*Godo Kaisha IP Bridge 1*

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*Dr. Stanley R. Shanfield*  
*Vol. I*  
*March 27, 2018*

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IP Bridge Exhibit 2009

TSMC v. Godo Kaisha IP Bridge 1

Page 1

1 VOLUME: I  
2 PAGES: 1-186  
3 EXHIBITS: 0

4 UNITED STATES PATENT AND TRADEMARK OFFICE  
5 BEFORE THE PATENT TRIAL AND APPEAL BOARD  
6 CASE NO. IPR2017-01841  
7 PATENT 7,893,501

8 TAIWAN SEMICONDUCTOR MANUFACTURING )  
9 CO., LTD, )  
10 Petitioner, )  
11 vs. )  
12 GODO KAISHA IP BRIDGE 1, )  
13 Patent Owner. )  
14 )

15 DEPOSITION OF STANLEY R.  
16 SHANFIELD, PhD, called as a witness by and on  
17 behalf of the Patent Owner, pursuant to the  
18 applicable provisions of the Federal Rules of Civil  
19 Procedure, before P. Jodi Ohnemus, RPR, RMR, CRR,  
20 CA-CSR #13192, NH-LSR #91, MA-CSR #123193, and  
21 Notary Public, within and for the Commonwealth of  
22 Massachusetts, at the offices of WilmerHale, 60  
23 State Street, Boston, Massachusetts, on Tuesday,  
24 March 27, 2018, commencing at 9:09 a.m.

Page 2

1 APPEARANCES:  
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Page 3

1 APPEARANCES: (CONT'D)  
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Page 4

1 I N D E X  
2  
3 TESTIMONY OF: PAGE  
4  
5 STANLEY R. SHANFIELD, PhD 6  
6 (By Mr. Miller)  
7  
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			Page 5				Page 7
1	E X H I B I T S			1	A. 342 Otis Street, Newton, Massachusetts.		
2	EXHIBIT	DESCRIPTION	PAGE	2	Q. And your current employer?		
3				3	A. Draper Laboratory.		
4	Exhibit 1002	previously marked	12	4	Q. And what is your position?		
5	Exhibit 1001	previously marked	21	5	A. I am distinguished member of technical		
6	Exhibit 1004	previously marked	95	6	staff.		
7				7	Q. And how long have you been at Draper		
8				8	Laboratories?		
9				9	A. Since 2003. So that would be about 15		
10				10	years.		
11				11	Q. And are you currently engaged in other		
12				12	expert matters?		
13				13	A. One other, yes.		
14				14	Q. And just for the ground rules for today,		
15				15	I'm sure you've been deposed before, but each time		
16				16	it's helpful to walk through them.		
17				17	You understand that you are under oath?		
18				18	A. Sure. Yes.		
19				19	Q. And you understand that because this is a		
20				20	question-answer format, any responses need to be		
21				21	audible, and a head nod or a head shake is		
22				22	insufficient.		
23				23	A. I understand that, yes.		
24				24	Q. All right. Thank you.		

			Page 6				Page 8
1	STANLEY R. SHANFIELD, PhD, having			1	And even if Counsel objects, you still		
2	satisfactorily been identified by			2	need to respond to the question, unless your		
3	the production of a driver's license,			3	counsel is instructing you not to answer.		
4	and being first duly sworn by the Notary			4	A. I understand that. Thank you.		
5	Public, was examined and testified as			5	Q. And if at any point today if there -- if I		
6	follows to interrogatories			6	ask a question and it's unclear, please help me		
7	BY MR. MILLER:			7	understand what the point of misunderstanding is,		
8	Q. Good morning, Doctor Shanfield.			8	and we can fine tune the question so that we can		
9	A. Good morning.			9	understand each other.		
10	Q. Could you --			10	A. Sure. Yes.		
11	MR. SMITH: Real quick: I just wanted to			11	Q. Have you ever been convicted of a crime?		
12	note on the record Doctor Shanfield has a clean			12	A. No.		
13	copy of the '501 patent, TSMC 1001, as well as			13	Q. Have you ever been convicted of perjury?		
14	copies of his declarations, and you guys are			14	A. No.		
15	welcome to flip through those if you'd like.			15	Q. Have any of your expert reports ever been		
16	MR. MILLER: Okay. Thank you.			16	excluded?		
17	Q. Could you state your name for the record,			17	A. No.		
18	please.			18	Q. So there's never been a report struck on		
19	A. Stanley Shanfield.			19	Daubert grounds or anything like that?		
20	Q. And could you spell your name, please.			20	A. No, not to my knowledge.		
21	A. Stanley, S-t-a-n-l-e-y, Shanfield,			21	Q. And are you under the influence of any		
22	S-h-a-n-f-i-e-l-d.			22	medication today or anything that would prevent you		
23	Q. Thank you.			23	from testifying fully and honestly?		
24	What is your address?			24	A. No.		

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1 Q. So today's deposition is going to cover  
2 your declarations that were filed in the 1841,  
3 1842, 1843, and 1844 proceedings.  
4 Do you understand that?  
5 **A. Yes.**  
6 Q. And do you understand that this deposition  
7 is going to be used in both the 1841 and the 1843  
8 proceedings?  
9 **A. Yes, I understand that.**  
10 Q. How many hours did you spend leading up to  
11 the filing of declarations in these matters?  
12 **A. I'd have to think through and look through**  
13 **my calendar to get a reasonable estimate, but it**  
14 **was significant.**  
15 Q. Is significant more than 100?  
16 **A. It's at least on that order of 100.**  
17 Q. More than 200?  
18 **A. Like I said, I -- to get any more accurate**  
19 **than that, I'd -- I would need to look in my**  
20 **calendar and add it up.**  
21 Q. Was the time equally divided between the  
22 841 and 842 petitions, versus the 843 and 844  
23 petitions?  
24 **A. I -- once again, to really know if it was**

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1 **equal, I'd have to check.**  
2 Q. How many hours did you spend preparing for  
3 today's deposition?  
4 **A. Specifically for coming here?**  
5 **Well, I guess I consider the writing my**  
6 **declaration as part of that preparation. So, I**  
7 **mean, it would be essentially the time I've spent**  
8 **on the declaration.**  
9 Q. And since the declaration was filed --  
10 there is a moment in time when that was filed.  
11 Since that time, has there been preparation in  
12 advance of this deposition today?  
13 **A. Yes.**  
14 Q. And how much time was spent in that  
15 preparation?  
16 **A. In terms of hours, probably 20 to 30. And**  
17 **that's just an estimate. Once again, I have**  
18 **records of it, but I would need to check.**  
19 Q. Were there several meetings leading up to  
20 this deposition?  
21 **A. I met with counsel, yes.**  
22 Q. Was it anyone besides the counsel that's  
23 here today?  
24 **A. There were -- there was at least one other**

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1 **person, but it was all mostly these two gentlemen**  
2 **(indicating).**  
3 Q. Did you review any documents during the --  
4 these preparatory sessions?  
5 **A. Yes.**  
6 Q. And what documents did you review?  
7 **A. All the documents relevant to the case.**  
8 **So everything I had originally looked at when I**  
9 **wrote the declaration, and that's -- that's a lot**  
10 **of -- a long list of documents.**  
11 Q. Did you look at any documents that were  
12 not filed in the IPRs?  
13 **A. In the last few days, or over the course**  
14 **of the entire writing of my declaration?**  
15 Q. Let's start with the writing of your  
16 declaration.  
17 **A. Yes, I did.**  
18 Q. So there were documents that you reviewed  
19 in drafting your declaration that were not filed  
20 with your declaration.  
21 **A. To clarify: I looked through technical**  
22 **data, patents, published papers, and I made**  
23 **selections as to what to file from that.**  
24 **So that's what I'm referring to.**

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1 Q. And for today's -- for the preparation for  
2 today's deposition, were there documents that were  
3 not filed that you reviewed?  
4 **MR. SMITH: Objection.**  
5 **A. I don't recall any. Doesn't mean -- it's**  
6 **possible, but I don't recall any.**  
7 Q. Do you have a copy of your Exhibit 1002  
8 declaration?  
9 **A. Yes.**  
10 Q. I'm actually thrown off my game. I've  
11 never had a witness come with their own exhibits  
12 before.  
13 You said you had a copy of the 1002  
14 declaration?  
15 **A. Yes, I did.**  
16 Q. Could you turn to paragraph 16, please.  
17 (Exhibit 1002, previously marked.)  
18 **MR. SMITH: If -- Counsel, if you brought**  
19 **copies, could I get a copy of that?**  
20 **MR. MILLER: Okay. I feel like there's a**  
21 **joke in there about witness being ready and counsel**  
22 **not.**  
23 Q. Do you see paragraph 16?  
24 **A. Yes.**

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1 Q. It says that you were being compensated at  
2 your normal consulting rate; is that correct?  
3 **A. Yes, that's correct.**  
4 Q. What is your normal consulting rate?  
5 **A. \$385 an hour.**  
6 Q. Is that your normal consulting rate for  
7 expert witness work?  
8 **A. Yes.**  
9 Q. Is it the same rate for technical expert  
10 work?  
11 Let me clarify that question.  
12 If you're hired in the semiconductor field  
13 outside of the patent context or outside of a  
14 litigation matter, what is your consulting rate?  
15 **A. It might be that rate. Sometimes it's a**  
16 **different rate.**  
17 Q. Is it a higher or lower rate?  
18 **A. Lower.**  
19 Q. We're going to go a little backwards.  
20 Do you see paragraph 15?  
21 **A. Yes.**  
22 Q. According to paragraph 15, you reviewed  
23 the file history of the '501 patent?  
24 **A. (Witness reviews document.) Yes.**

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1 Q. Did you review the entirety of the file  
2 history, or just the portions that were filed as  
3 exhibits to your declarations?  
4 **A. I don't actually recall. I think it was**  
5 **just what was listed as exhibits.**  
6 Q. In the file history the examiner would  
7 occasionally identify what it -- what the examiner  
8 asserted were prior art references; correct?  
9 **A. Yeah. Maybe if you want you could refer**  
10 **me to the document, and I'll -- I can comment on it**  
11 **probably more accurately.**  
12 Q. We may get to that, but my -- my question  
13 is a little more focused on just simply what you  
14 reviewed --  
15 **A. Uh-huh.**  
16 Q. -- as you were preparing your  
17 declarations.  
18 Did you review the references that the  
19 examiner highlighted in the prosecution file  
20 history?  
21 **A. I reviewed the -- the file history itself.**  
22 **I don't recall -- it depends on which document**  
23 **you're referring to, but chances are I didn't go**  
24 **through every document that was referenced.**

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1 Q. Do you remember reviewing a patent  
2 called -- with the -- excuse me. Let me rephrase.  
3 Do you remember reviewing a document -- or  
4 -- wow. I apologize. I'm tripping over my own  
5 words.  
6 Do you remember reviewing a patent with  
7 the inventor Matsuda listed?  
8 **A. Well, it would help me if I had the**  
9 **document in front of me of the history, and I can**  
10 **recall more clearly what I may have looked at.**  
11 **When a reference was mentioned, I**  
12 **typically at least take a look at it. And so**  
13 **depending on where that appeared and in what**  
14 **context in the document, I may have looked at it.**  
15 Q. Did you review the institution decisions  
16 in these proceedings?  
17 **A. I did.**  
18 Q. Returning to Exhibit 100 -- your Exhibit  
19 1002 declaration --  
20 **A. Uh-huh.**  
21 Q. -- in paragraph 20, do you identify the --  
22 what you used as the priority date for the claims  
23 of the '501 patent?  
24 **A. Yes, I do identify it in paragraph 20.**

Page 16

1 Q. And what is that date?  
2 **MR. SMITH: Objection.**  
3 **A. So what I wrote in paragraph 20 is --**  
4 **applied the date of June 16, 2003, which is the**  
5 **filing date of the foreign application.**  
6 Q. So that is the date for the person of  
7 ordinary skill in the art that you applied in your  
8 analysis?  
9 **MR. SMITH: Objection.**  
10 **A. Yes, that is. Yes.**  
11 Q. Could you turn to paragraph 32 in your  
12 declaration, please.  
13 In paragraph 32 did you identify the  
14 qualifications of a person of ordinary skill in the  
15 art?  
16 **A. Yes, I did.**  
17 Q. And could you read that definition that  
18 you used.  
19 **A. What I wrote was "A person of ordinary**  
20 **skill in the art at the time of the alleged**  
21 **invention of the '501 patent would have had the**  
22 **equivalent of a master's degree in electrical**  
23 **engineering, physics, chemistry, materials science,**  
24 **or equivalent training, and two years of work**

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