Exhibit 2011



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Page 1
      IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
           BEFORE THE PATENT TRIAL AND APPEAL BOARD
2
     TAIWAN SEMICONDUCTOR
     MANUFACTURING COMPANY, LTD.
    AND TSMC NORTH AMERICA CORP., Case Nos.
                                      IPR2014-00818
5
                     Petitioners, IPR2014-00819
                                       IPR2014-00821
б
                                       IPR2014-00827
     -vs-
                                       IPR2014-01098
7
     ZOND, LLC,
8
                     Patent Owner.
9
10
11
           VIDEOTAPED DEPOSITION of DR. UWE KORTSHAGEN
12
                      Minneapolis, Minnesota
13
                        December 4th, 2014
14
15
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17
18
19
20
21
22
23
24
    Reported by:
    Amy L. Larson, RPR
25
     Job No. 87858
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		Daga	,		Daga 2
		Page :	۷		Page 3
1 2	APPEARANCES:		1 2	APPEARANCES: (CONT'D.) WHITE & CASE	
	RADULESCU 350 Fifth Avenue		4	701 Thirteenth Street, N.W.	
3	New York, New York 10118		3	Washington, D.C. 20005	
١,	By: Etai Lahav, Esq.			By: David Tennant, Esq.	
4	Maria Granovsky, Esq. For: Zond, LLC		4	By: Brett Rismiller, Esq. For: Global Foundries	
5	Tor. Zond, EEC		5	101. Global Foundries	
6			6		
7	GONSALVES LAW FIRM 2216 Beacon Lane		7 8		
′	Falls Church, Virginia 22043		9		
8	By: Gregory Gonsalves, Esq.		10		
9	For: Zond, LLC		11	O'MELVENY & MYERS	
10	DUANE MORRIS		111	400 South Hope Street Los Angeles, California 90071	
	100 High Street		12	By: Vincent Zhou, Esq. (By telephone)	
11	Boston, Massachusetts 02110			For: Advanced Micro Devices	
12	By: Anthony Fitzpatrick, Esq. For: Taiwan Semiconductor Manufacturing		13 14		
12	Company Limited and		1 4	FOLEY & LARDNER	
13	TSMC North America		15	321 North Clark Street	
14	HAVNES AND DOONE		1,	Chicago, Illinois 60654	
15	HAYNES AND BOONE 2323 Victory Avenue		16	By: Michael Houston, Esq. (By telephone) For: Renesas Electronics Corporation and	
16	Dallas, Texas 75219		17	Renesas Electronics America, Inc.	
1	By: David McCombs, Esq.		18		
17	By: Gregory Huh, Esq. For: Taiwan Semiconductor Manufacturing		19	BAKER BOTTS One Shell Plaza	
18	Company Limited and		20	910 Louisiana Street	
	TSMC North America			Houston, Texas 77002	
19			21	By: Michael Silliman, Esq.	
20 21			22	For: Toshiba	
22			23		
23			24	ALGO PREGENTS S. WILL	
24 25	///		25	ALSO PRESENT: Dean Hibben, Videographer	
		Page 4	1		Page 5
1	INDEX:	_		INDEX. (CONTED)	-
2	EXAMINATION BY: PAGE		1 2	INDEX: (CONT'D.) PREVIOUSLY MARKED EXHIBITS:	
3	Mr. Lahav8		3	Exhibit TSMC 1216	
4	EXHIBITS MARKED FOR IDENTIFICATION:		'	U.S. Patent 6,306,265 B1	
5	Exhibit 2004112 Cathodic Arcs		4	No Bates	
6	No Bates		5	Exhibit TSMC 1221	
7	PREVIOUSLY MARKED EXHIBITS:			U.S. Patent 5,247,531	
8	Exhibit TSMC 1001 U.S. Patent No. 6,853,142 B2		6	No Bates	
9	V.S. Patent No. 6,855,142 B2 No Bates		7	Exhibit TSMC 1222	
10	Exhibit INTEL 1002			European Patent Application	
7 7	Kortshagen Declaration - '759 Patent		8	No Bates	
11 12	No Bates Exhibit TSMC 1003		9	Exhibit TSMC 1302	
	High-Current Low-Pressure Quasi-Stationary			Kortshagen Declaration - '759 Patent	
13	Discharge in a Magnetic Field		10	No Bates	
1 4	Experimental Research		11	Exhibit	
14 15	No Bates Exhibit TSMC 1004			Paper 13 - No Bates	
1-3	U.S. Patent No. 6,190,512 B1		12	-	
16	No Bates		13		
17	Exhibit TSMC 1201		14		
18	U.S. Patent No. 7,147,759 B2 No Bates		15		
19	Exhibit TSMC 1202		16		
	Kortshagen Declaration - '142 Patent		17		
20	No Bates		18		
21	Exhibit TSMC 1204		19		
1	Ionization Relaxation in a plasma produced		100		
22	Ionization Relaxation in a plasma produced by a pulsed inert-gas discharge		20		
22			21		
	by a pulsed inert-gas discharge No Bates		21 22		
22	by a pulsed inert-gas discharge No Bates Exhibit TSMC 1205		21 22 23		
22	by a pulsed inert-gas discharge No Bates		21 22		

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1	THE VIDEOTAPED DEPOSITION OF DR. UWE KORTSHAGEN	ı, 1	DR. UWE KORTSHAGEN
2	taken on this 4th day of December, 2014, at The	" 2	Will counsel please introduce yourselves.
3	Commons Hotel, 615 Washington Avenue, S.E.,	3	MR. LAHAV: Etai Lahav of
4	Minneapolis, Minnesota, commencing at	4	Radulescu, LLP, representing patent owner
5	approximately 10:30 a.m.	5	Zond.
6		6	MS. GRANOVSKY: Maria Granovsky,
7	PROCEEDINGS	7	Radulescu, LLP, representing Zond.
8		8	MR. GONSALVES: Gregory Gonsalves
9	THE VIDEOGRAPHER: This is video	9	representing Zond.
10	number 1 in the deposition of Dr. Uwe	10	MR. FITZPATRICK: Anthony
11	Kortshagen in the matter of Taiwan	11	Fitzpatrick from Duane Morris, LLP, on behalf
12	Semiconductor Manufacturing Company, Ltd.,	12	of Taiwan Semiconductor Manufacturing Company
13	et al., vs. Zond, LLC, in the United States	13	Limited and TSMC North America.
14	Patent and Trademark Office before the Patent	14	MR. TENNANT: David Tennant of
15	Trial and Appeal Board, numbers	15	White & Case, I'm here with my colleague
16	IPR2014-00818, 00819, 00821, 00827 and 01098.	16	Brett Rismiller of White & Case, we are
17	The deposition is being held at The	17	representing Global Foundries U.S. Inc.,
18	Commons Hotel in Minneapolis, Minnesota on	18	Global Foundries Dresden Module One LLC & Co.
19	December 4th, 2014, at approximately	19	KG, Global Foundries Dresden Module Two LLC &
20	10:29 a.m. My name is Dean Hibben, I'm the	20	Co. KG.
21	legal video specialist from TSG Reporting	21	MR. MCCOMBS: David McCombs
22	Incorporated, headquartered at 747 Third	22	representing Taiwan Semiconductor
23	Avenue, New York, New York. The court	23	Manufacturing Limited, TSMC North America and
24	reporter is Amy Larson in association with	24	Fujitsu.
25	TSG Reporting.	25	MR. HUH: Gregory Huh from
	Page 8		Page 9
1	DR. UWE KORTSHAGEN	1	DR. UWE KORTSHAGEN
2	Haynes & Boone representing Taiwan	2	Q. Anything else?
I ~		1	
3	Semiconductor Manufacturing Limited and	3	A. I had breakfast this morning.
4	North TSMC North America and Fujitsu.	3 4	A. I had breakfast this morning.Q. In preparation for your deposition?
4 5	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the	3 4 5	A. I had breakfast this morning.Q. In preparation for your deposition?A. Yes.
4 5 6	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the phone, please?	3 4 5 6	A. I had breakfast this morning.Q. In preparation for your deposition?A. Yes.Q. In order to be to have nutrition for it,
4 5 6 7	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the phone, please? MR. HOUSTON: Yes, Michael Houston	3 4 5 6 7	A. I had breakfast this morning.Q. In preparation for your deposition?A. Yes.Q. In order to be to have nutrition for it, is that your statement?
4 5 6 7 8	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the phone, please? MR. HOUSTON: Yes, Michael Houston of Foley & Lardner representing Renesas.	3 4 5 6 7 8	A. I had breakfast this morning.Q. In preparation for your deposition?A. Yes.Q. In order to be to have nutrition for it, is that your statement?A. Correct.
4 5 6 7 8 9	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the phone, please? MR. HOUSTON: Yes, Michael Houston of Foley & Lardner representing Renesas. MR. SILLIMAN: Michael Silliman of	3 4 5 6 7 8 9	 A. I had breakfast this morning. Q. In preparation for your deposition? A. Yes. Q. In order to be to have nutrition for it, is that your statement? A. Correct. Q. Okay. Did you meet with any counsel in
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4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	North TSMC North America and Fujitsu. THE VIDEOGRAPHER: Anyone on the phone, please? MR. HOUSTON: Yes, Michael Houston of Foley & Lardner representing Renesas. MR. SILLIMAN: Michael Silliman of Baker, Botts, LLC, on behalf of Toshiba. THE VIDEOGRAPHER: And would the court reporter please swear in the witness. DR. UWE KORTSHAGEN, a witness in the above-entitled action, after having been first duly sworn, was deposed and says as follows: EXAMINATION BY MR. LAHAV: Q. Good morning. A. Good morning.	3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	 A. I had breakfast this morning. Q. In preparation for your deposition? A. Yes. Q. In order to be to have nutrition for it, is that your statement? A. Correct. Q. Okay. Did you meet with any counsel in preparation for your deposition? A. I did. Q. When? A. We met on December 2nd, and I think we had a number of discussions before that. I don't at this point recall the exact dates. Q. How long did you meet for on December 2nd? A. Excuse me, can you repeat? Q. Yes. How long did you meet for on December 2nd? A. Excuse me. I think we met for six hours maybe.

	Page 10		Page 11
1	DR. UWE KORTSHAGEN	1	DR. UWE KORTSHAGEN
2	Q. Did you meet with everybody sitting on this	2	THE WITNESS: I do not recall the
3	other side of the table?	3	exact number, no.
4	A. At which side of the table?	4	BY MR. LAHAV:
5	Q. The one opposite me.	5	Q. Did you have telephone conversations to
6	A. Correct, yes.	6	prepare for this deposition with anyone other
7	Q. Okay.	7	than those sitting across from me at this
8	A. I'm not very good with the last names because	8	table?
9	we	9	MR. FITZPATRICK: Objection.
10	Q. I don't know all their names either yet.	10	THE WITNESS: Could you repeat the
11	A. Oh, okay.	11	question, please?
12	Q. Did you spend any time this morning preparing	12	MR. LAHAV: Yes.
13	for your deposition?	13	BY MR. LAHAV:
14	A. I spent about 20 minutes looking at some	14	Q. Other than the people sitting across from me
15	references, yes.	15	at this table, did you have telephone
16	Q. Immediately preceding this session; is that	16	conversations with any other petitioner's
17	right?	17	counsel in preparation for your deposition
18	A. That is correct, and also maybe 20 minutes at	18	this morning?
19	home before I actually came here.	19	A. I think I should mention that at some of our
20	Q. Do you recall how many telephone	20	discussions there was a phone conference like
21	conversations you had to prepare for your	21	this and other counsel did call in. I
22	deposition this morning before the meeting on	22	don't do not recall who actually called
23	December 2nd?	23	in. So just for correctness
24	MR. FITZPATRICK: Objection to the	24	Q. Okay.
25	form.	25	A I want to state that.
	Page 12		Page 13
1	Page 12 DR. UWE KORTSHAGEN	1	Page 13 DR. UWE KORTSHAGEN
1 2			
	DR. UWE KORTSHAGEN	1	DR. UWE KORTSHAGEN
2	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose	1 2	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron
2	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a	1 2 3	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission?
2 3 4	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a preparation session with you for this	1 2 3 4	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission? A. Secondary electron emission is a process by
2 3 4 5	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a preparation session with you for this deposition on the phone?	1 2 3 4 5	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission? A. Secondary electron emission is a process by which electrons are released, for instance,
2 3 4 5 6	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a preparation session with you for this deposition on the phone? MR. FITZPATRICK: Objection to	1 2 3 4 5 6	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission? A. Secondary electron emission is a process by which electrons are released, for instance, at the cathode of a discharge system when the
2 3 4 5 6 7	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a preparation session with you for this deposition on the phone? MR. FITZPATRICK: Objection to form.	1 2 3 4 5 6 7	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission? A. Secondary electron emission is a process by which electrons are released, for instance, at the cathode of a discharge system when the cathode is bombarded by energetic species such as ions. Q. In a sputtering apparatus, when we talk about
2 3 4 5 6 7 8	DR. UWE KORTSHAGEN Q. Is there any other petitioner's counsel whose name you know who participated in a preparation session with you for this deposition on the phone? MR. FITZPATRICK: Objection to form. THE WITNESS: I think I remember that Larissa Park from Wilmer, Hale participated at one point. And I believe,	1 2 3 4 5 6 7 8	DR. UWE KORTSHAGEN Q. Okay. What what is secondary electron emission? A. Secondary electron emission is a process by which electrons are released, for instance, at the cathode of a discharge system when the cathode is bombarded by energetic species such as ions. Q. In a sputtering apparatus, when we talk about secondary electron emission we are usually
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