12-05-20	03	
Form PTO-1595 (Rev. 10/02)	T U.S. DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office	
OMB No. 0651-0027 (exp. 6/30/2005)		
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	Please record the attached original documents or copy thereof.	
1. Name of conveying party(ies): //- 38-03	2. Name and address of receiving party(ies) σ	
KUG SUN HONG; DONG WAN KIM;	Name: SEOUL NATIONAL UNIVERSITY	
HYUN SEUNG YU; HEE BUM HONG;	Internal Address:	
JEONG RYEOL KIM; IN SUN CHO	Internal Address:	
Additional name(s) of conveying party(ies) attached? Yes Vo		
Nature of conveyance:		
✓ Assignment	Street Address: San 56-1, Shillim-dong,	
Security Agreement Change of Name	Kwanak-ku	
Other	rwanar-ru	
	_{City:} Seoul, Korea	
11/6/03; 11/5/03; 10/29/03; 11/5/03; 10/29/03; 10/29/03 Execution Date:	Additional name(s) & address(es) attached? Yes V No	
4. Application number(s) or patent number(s): $11/6/03$; $11/5/03$; $10/29/03$; $11/5/03$; $10/29/03$; If this document is being filed together with a new application, the execution date of the application is: $10/29/03$		
	1	
A. Patent Application No.(s)	B. Patent No.(s)	
1073249/ Additional numbers at	ached? Yes No	
5. Name and address of party to whom correspondence	6. Total number of applications and patents involved:	
concerning document should be mailed: Name: Morton J. Rosenberg, Esq.	7. Total fee (37 CFR 3.41)\$ 40.00	
rvaine		
Rosenberg, Klein & Lee	✓ Enclosed	
	Authorized to be charged to deposit account	
	8. Deposit account number:	
Street Address: 3458 Ellicott Center Drive,	o. Deposit account number.	
Sileer Address.	18-2011	
Suite 101		
City: Ellicott City State: MD Zip: 21043		
DO NOT USE THIS SPACE		
9. Signature.		
g		
100 1 1 1		
Morton J. Rosenberg Warm) 11/26/03		
Name of Person Signing Signature Date		
Total number of pages including cover sheet, attachments, and documents:		

Mail documents to be recorded with required cover sheet information to

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12/03/2003 WABDELR1 00000001 10722491

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PATENT REEL: 014750 FRAME: 0848

	ASSIGNMENT DEED
This Assignmen	nt agreement is applicable to an invention entitled (invention Title) PHOSPHATE-BASED CERAMIC
	W DIELECTRIC CONSTANT AND METHOD FOR MANUFACTURING DIELECTRIC SUBSTRATE USING THE SAME
(Check one) A a P	IIGHTS referred to in this agreement are: Patent Application for this invention, executed by the ASSIGNOR(s) concurrently with this Assignment
□ U.S	S. Patent Application Serial No, filed, filed
The PATENT R	IIGHTS assigned under this agreement are:
(Check one) 💟 U.S	S. Patent rights only rights. In this case, the assignee shall have the right to claim the benefit of the filing date of
anv	/ U.S. Patent Application identified above.
The ASSIGNOI	R(s) referred to in this agreement is (or are): or) Kug Sun HONG
(Full name of first assign (Address) Sampor	ong Apt. 11-1502, Seocho 4-dong, Seocho-ku, Seoul, Korea
-	
(Full name of second as:	signor, if any) Dong Wan KIM n Apt. 521-611, Siheung 2-dong, Geumchon-ku, Seoul, Korea
(Address) <u>Dyeoksa</u>	•
(Full name of third assig	nor, if any) Hyun Seung YU
(Address) <u>178-61 E</u>	Bongcheon 11-dong, Kwanak-ku, Seoul, Korea
(Full name of fourth assi	gnor, if any) Hee Bum HONG Sillimbon-dong, Kwanak-ku, Seoul, Korea
(Address) <u>10-191 S</u>	illimbon-dong, Kwanak-ku, Seoul, Korea
The First ASSI	GNEE referred to in this agreement is:
	SEOUL NATIONAL UNIVERSITY San 56-1, Shillim-dong, Kwanak-ku, Seoul, Korea
(Address of Assignee)	Sait 50-1, Shimin-dong, Rwanar-Ru, Seoui, Rolea
	SSIGNEE referred to in this agreement is:
(Name of Assignee)	
(Address of Assignee)	
•	
The First ASS	
(Check one)	☐ an individual ☐ a partnership
	a Corporation of Korea
The Coond A	(State or Country)
The Second At (Check one)	SSIGNEE IS:
(3.155.15)	a partnership
	a Corporation of(State or Country)
	(State of Country)
	Additional assignees are being named on separately numbered sheets attached hereto.
The ASSIGNO	DR(S), in consideration of \$1.00 paid by each ASSIGNEE, and other good and valuable consideration, receipt of
	have and do hereby assign the following to each ASSIGNEE; their successors and assigns:
the fe	ull and exclusive right to the invention;
	qual interest in and to the entire right, title and interest in and to the PATENT RIGHTS in the invention, all inuations, continuations-in-part, divisionals, re-issues, and re-examination patents and patent applications; and
	ight to claim priority under 35 U.S.C. 119, based on any earlier foreign applications for this invention.
	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the
Director of Patents and	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the
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Director of Patents and entire right, title and inte Further, the AS ASSIGNOR(s) respectir continuation-in-part, sub any and all Letters Pate able to aid said ASSIGN (Signatur	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the erest, for the sole use and enjoyment of said ASSIGNEE(s), their successors and assigns. SSIGNOR(s) agree(s) to communicate to said ASSIGNEE(s), or their representatives, any facts known to the ng said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, settitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and to be issued to said ASSIGNEE(s), make all rightful oaths and generally do everything necessary or desir-NEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. **RUG SUN HONG** **RUG SUN HONG** **RUG SUN HONG** **BONG WAN KIM (KIM IS** **In Successors** **In S
Director of Patents and entire right, title and inte Further, the AS ASSIGNOR(s) respectir continuation-in-part, sub any and all Letters Pate able to aid said ASSIGN (Signatur (Signatur	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the erest, for the sole use and enjoyment of said ASSIGNEE(s), their successors and assigns. SSIGNOR(s) agree(s) to communicate to said ASSIGNEE(s), or their representatives, any facts known to the ng said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, satitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and to be issued to said ASSIGNEE(s), make all rightful oaths and generally do everything necessary or desir-NEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. **RUG SUN HONG** **EVUG SUN HONG** **DONG WAN KIM (KIM IS** **DONG WAN KIM (KIM IS** **In 15 2003* **In 16 2004* **In 1
Director of Patents and entire right, title and interpretent for the ASASSIGNOR(s) respectir continuation-in-part, subtany and all Letters Pate able to aid said ASSIGN (Signatur (Signatur Human))	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the erest, for the sole use and enjoyment of said ASSIGNEE(s), their successors and assigns. SSIGNOR(s) agree(s) to communicate to said ASSIGNEE(s), or their representatives, any facts known to the ng said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, satitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and to be issued to said ASSIGNEE(s), make all rightful oaths and generally do everything necessary or desir-NEE(s), their successors and assigns, to obtain and enforce proper protection for said invention. **RUG SUN HONG** **EVUG SUN HONG** **DONG WAN KIM (KIM IS** **DONG WAN KIM (KIM IS** **In 15 2003* **In 16 2004* **In 1
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Director of Patents and entire right, title and inte Further, the AS ASSIGNOR(s) respectir continuation-in-part, sub any and all Letters Pate able to aid said ASSIGN (Signatur	Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the erest, for the sole use and enjoyment of said ASSIGNEE(s), their successors and assigns. SSIGNOR(s) agree(s) to communicate to said ASSIGNEE(s), or their representatives, any facts known to the figure said invention, and testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, astitute, renewal, reexamination and reissue applications, execute all necessary assignment papers to cause and to be issued to said ASSIGNEE(s), make all rightful oaths and generally do everything necessary or desirables(s), their successors and assigns, to obtain and enforce proper protection for said invention. **RUG SUN HONG** **RUG SUN HONG** **RUG SUN HONG** **DONG WAN KIM (KIM IS** **DONG WAN KIM (KIM IS** **DONG WAN KIM (KIM IS** **In 1. 5. 2003* **DONG WAN KIM (KIM IS** **In 1. 5. 2003* **DONG WAN KIM (KIM IS** **In 1. 5. 2003* **DONG WAN KIM (KIM IS** **In 1. 5. 2003* **I

PATENT REEL: 014750 FRAME: 0849

ASSIGNMENT DE	ED	
This Assignment agreement is applicable to an invention entitled (invention Title) PHOSPHATE-BASEDCERAMIC		
COMPOSITIONS WITH LOW DIELECTRIC CONSTANT AND METHOD FOR MANUFACTURING DIELECTRIC SUBSTRATE USING THE SAM The PATENT RIGHTS referred to in this agreement are: (Check one) a Patent Application for this invention, executed by the ASSIGNOR(s) concurrently with this Assignment		
U.S. Patent Application Serial No	, issued	
The PATENT RIGHTS assigned under this agreement are:		
(Check one) □ U.S. Patent rights only □ worldwide Patent rights. In this case, the assignee sh	all have the right to claim the benefit of the filing date of	
any U.S. Patent Application identified above. The ASSIGNOR(s) referred to in this agreement is (or are):		
(Full name of first assignor) Icong Rycol KIM		
(Address)Imaechon Samsung Apt. 1012-302, Bundang-ku	Seongnam-si, Kyungki-do, Korea	
(Full name of second assignor, if any) <u>In Sun CHO</u> (Address) 633 Sineum-dong, Gimcheon-si, Gyeongsangbuk-	lo Koros	
	lo, Korea	
(Full name of third assignor, if any)(Address)		
(Full name of fourth assignor, if any)(Address)		
The First ASSIGNEE referred to in this agreement is:	•	
(Name of Assignee) SEOUL NATIONAL UNIVERSITY (Address of Assignee) San 56-1, Shillim-dong, Kwanak-ku, See	oul. Korea	
The Second ASSIGNEE referred to in this agreement is: (Name of Assignee)		
(Address of Assignee)		
The First ASSIGNEE is: (Check one) ☐ an individual		
a partnership		
x a Corporation of	Korea (State or Country)	
The Second ASSIGNEE is:	(0.2.0 0. 0.02),	
(Check one) ☐ an individual ☐ a partnership		
a Corporation of	(State or Country)	
	(State or Country)	
Additional assignees are being named on se	parately numbered sheets attached hereto.	
The ASSIGNOR(S), in consideration of \$1.00 paid by each ASSIC which is acknowledged, have and do hereby assign the following to each A		
the full and exclusive right to the invention;		
an equal interest in and to the entire right, title and inter continuations, continuations-in-part, divisionals, re-issue	est in and to the PATENT HIGHTS in the invention, all s, and re-examination patents and patent applications; and	
the right to claim priority under 35 U.S.C. 119, based on	any earlier foreign applications for this invention.	
As to all U.S. Patent Applications assigned under this Agreement, the ASSIGNOR(S) hereby authorize(s) and requests the Director of Patents and Trademarks to issue all Letters Patent to the ASSIGNEE(s) as the ASSIGNEE(s) of an equal interest in the		
entire right, title and interest, for the sole use and enjoyment of said ASSIG Further, the ASSIGNOR(s) agree(s) to communicate to said ASSIGNOR(s)		
ASSIGNOR(s) respecting said invention, and testify in any legal proceeding		
continuation-in-part, substitute, renewal, reexamination and reissue applica any and all Letters Patent to be issued to said ASSIGNEE(s), make all righ		
able to aid said ASSIGNEE(s) their successors and assigns, to obtain and		
JEONG RYEOL KIM (KIM	10,29. 2003	
(Signature elsele or first assignor) IS FAMILY NAME)	(Date) (Date)	
IN SUN CHO (CHO IS	10.29. 2003.	
(Signature of second assignor, if any)FAMILY NAME)	(Date)	
(Signature of third assignor, if any)	(Date)	
(Signature of fourth assignor, if any)	(Date)	

PATENT RECORDED: 11/28/2003 REEL: 014750 FRAME: 0850