## PATENT ASSIGNMENT

## Electronic Version v1.1

Stylesheet Version v1.1

		NEW ASSIGNMENT		
NATURE OF CONVEYANCE:		ASSIGNMENT		
CONVEYING PARTY	DATA			
		Name	Execution Date	
Eun Seok CHOI			08/29/2012	
Jung Ryul AHN			08/29/2012	
Se Hoon KIM			08/29/2012	
Yong Dae PARK			08/29/2012	
In Geun LIM			08/29/2012	
Jung Seok OH			08/29/2012	
RECEIVING PARTY D	)ATA			
Name:	SK hynix Inc.		]	
Street Address:	2091, Gyeongchung-daero, Bubal-eub, Icheon-si			
City:	Gyeonggi-do			
State/Country:	KOREA, REPUBLIC OF			
Property Type		Νι	umber	
Application Number: 1360		605942		
CORRESPONDENCE	DATA			
CORRESPONDENCE Fax Number:	DATA 5713275452	2		
Fax Number: Phone: Email:	5713275452 571-327-54 ipntlaw@ipr	50 ntlaw.com		
Fax Number: Phone: Email:	5713275452 571-327-54 ipntlaw@ipr	50	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will b</i>	5713275452 571-327-545 ipntlaw@ipr be sent to the e-mail a	50 ntlaw.com <i>address first; if that is unsuccessful, i</i>	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp;</i> <i>Mail.</i> Correspondent Name: Address Line 1:	5713275452 571-327-545 ipntlaw@ipr be sent to the e-mail a : IP & T GRO 8230 Leesb	50 ntlaw.com <i>address first; if that is unsuccessful, i</i> DUP LLP	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp; Mail.</i> Correspondent Name: Address Line 1: Address Line 2:	5713275452 571-327-54 ipntlaw@ipr be sent to the e-mail a IP & T GRO 8230 Leesb Suite 650	50 htlaw.com <i>address first; if that is unsuccessful, i</i> DUP LLP burg Pike	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp;</i> <i>Mail.</i> Correspondent Name: Address Line 1:	5713275452 571-327-54 ipntlaw@ipr be sent to the e-mail a IP & T GRO 8230 Leesb Suite 650	50 ntlaw.com <i>address first; if that is unsuccessful, i</i> DUP LLP	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp; Mail.</i> Correspondent Name: Address Line 1: Address Line 2:	5713275452 571-327-545 ipntlaw@ipr <i>be sent to the e-mail a</i> : IP & T GRO 8230 Leesb Suite 650 Vienna, VIR	50 htlaw.com <i>address first; if that is unsuccessful, i</i> DUP LLP burg Pike	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp; Mail.</i> Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	5713275452 571-327-545 ipntlaw@ipr be sent to the e-mail a IP & T GRO 8230 Leesb Suite 650 Vienna, VIR	50 ntlaw.com <i>address first; if that is unsuccessful, i</i> DUP LLP burg Pike RGINIA 22182	it will be sent via US	
Fax Number: Phone: Email: <i>Correspondence will &amp; Mail.</i> Correspondent Name: Address Line 1: Address Line 2: Address Line 4:	5713275452 571-327-545 ipntlaw@ipr be sent to the e-mail a : IP & T GRO 8230 Leesb Suite 650 Vienna, VIR NUMBER: R: Assignment#page1.t	50 Intlaw.com address first; if that is unsuccessful, i DUP LLP Inurg Pike RGINIA 22182 PO120107HD Myung Soo Kim	it will be sent via US	

Attorney Docket No.

## ASSIGNMENT OF PATENT APPLICATION

WHEREAS I/We, the below named inventor(s) has made an invention entitled:

## THREE-DIMENSIONAL NON-VOLATILE MEMORY DEVICE

For which I/We executed an application for Letters Patent of the United States concurrently herewith; and/or For which I/We filed an application for Letters Patent of the United States on \_\_\_\_\_\_ (Application No. \_\_\_\_\_\_),

BE IT KNOWN that, for good and valuable consideration, the receipt of which is hereby acknowledged, I/We, as assignor(s), have sold, assigned, transferred, and set over, and do hereby sell, assign, transfer, and set over unto <u>SK</u><u>HYNLX INC.</u>, a corporation of the Republic of Korea, whose post office address is <u>2091</u>, <u>Gyeongchung-daero</u>, <u>Bubal-eub</u>, <u>Icheon-si</u>, <u>Gyeonggi-do</u>, <u>REPUBLIC OF KOREA</u>(hereinafter referred to as Assignee), its lawful successors and assigns my/our entire right, title, and interest in and to this application and the invention(s) and improvement(s) set forth therein; and any and all continuations, continuations-in-part, divisionals, and renewals of and substitutes for said application for said Letters Patent and any and all Letters Patent of the United States and of countries foreign thereto, which may be granted thereon or therefore; and any reissues, reexaminations, or extensions of all such Letters Patent.

I/WE HEREBY authorize the Assignee, its lawful successors and assigns to apply for Letters Patent in all countries foreign to the United States directly in its own name, and to claim priority of the filing date of any of the abovementioned applications for Letters Patent of the United States and of countries foreign thereto under the provisions of any and all international conventions and treaties.

I/WE HEREBY authorize and request the Commissioner of Patents and Trademarks of the United States and official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as foresaid, to issue all Letters Patent for this invention to the Assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY covenant that I/We have the full right to convey the interest assigned by this Assignment, and I/We have not executed and will not execute any agreement in conflict with this Assignment;

AND, I/WE HEREBY further covenant and agree that I/We will, without further consideration, communicate with said Assignee, its successors and assigns, any facts known to me/us respecting this invention and testify in any legal proceeding, sign all lawful papers when called upon to do so, execute and deliver any and all papers that may be necessary or desirable to perfect the title to this invention in said Assignee, its successors and assigns, execute all divisional, continuation, and reissue applications, make all rightful oaths and generally do everything possible to aid said Assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States and in countries foreign thereto, it being understood that any expense incident to the execution of such papers shall be borne by the Assignee, its successors and assigns.

AND, I/WE HEREBY authorize and request the attorneys of record to insert the serial number and filing date of said application now identified by the attorney docket number and title set forth above as soon as the same shall have been known to them by the United States Patent and Trademark Office.

IN TESTIMONY WHEREOF, I/We have hercunto set our hands.

B21006/178.204.3.157/2012--08-16 09:47

PATENT REEL: 028911 FRAME: 0654

Attorney Docket No.

Signature of first assignor: Name of first assignor: Address

Signature of second assignor: Name of second assignor: Address:

Signature of third assignor; Name of third assignor: Address:

Signature of fourth assignor: Name of fourth assignor: Address:

Signature of fifth assignor: Name of fifth assignor: Address:

Signature of sixth assignor: Name of sixth assignor: Address:

Chri Eun Seak Date Aug. 29, 2012

Eun Seok CHOI 808-906, JangmiMaeul Hyundai Apt., 334, Yatap-dong, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

\_ Date \_ Aug. 29, 2012 JUNG RYUL ANN Jung Ryul AHN

404-308, Buyeong Apt. 4 Danji, Donong-dong, Namyangju-si, Gyeonggi-do, Republic of Korea

From La Hors Date Aug. 29, 2012 Se Hoon KIM

804-1205, Su-ri Apt., 1151-5, Sanbon-dong, Gunpo-si, Gyeonggi-do, Republic of Korea

Yong Dae Park Date Aug. 29, 2012

116-1407, Sinheung Jugong Apt., Sinheung 2-dong, Sujeong-gu, Seongnam-si, Gyeonggi-do, Republic of Korea

Intraum LTM Date Aug. 19. 2012

In Geun LIM 395-13, Sindang 2-dong, Jung-gu, Seoul, Republic of Korea

Date Aug. 29, 2012 Jung Seak OH

103-507, Jueun Dasom Apt., Eung-am-ri, Bubal-eub, Icheon-si, Gyeonggi-do, Republic of Korea

**RECORDED: 09/06/2012**