

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT								
NATURE OF CONVEYANCE:	ASSIGNMENT								
<b>CONVEYING PARTY DATA</b>									
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hae-Rang CHOI</td> <td>10/18/2010</td> </tr> <tr> <td>Yong-Ju KIM</td> <td>10/18/2010</td> </tr> <tr> <td>Jae-Min JANG</td> <td>10/18/2010</td> </tr> </tbody> </table>		Name	Execution Date	Hae-Rang CHOI	10/18/2010	Yong-Ju KIM	10/18/2010	Jae-Min JANG	10/18/2010
Name	Execution Date								
Hae-Rang CHOI	10/18/2010								
Yong-Ju KIM	10/18/2010								
Jae-Min JANG	10/18/2010								
<b>RECEIVING PARTY DATA</b>									
Name:	Hynix Semiconductor Inc.								
Street Address:	San 136-1, Ami-ri, Bubal-eup, Icheon-si								
City:	Gyeonggi-do								
State/Country:	REPUBLIC OF KOREA								
Postal Code:	467-701								
<b>PROPERTY NUMBERS Total: 1</b>									
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>12916901</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	12916901				
Property Type	Number								
Application Number:	12916901								
<b>CORRESPONDENCE DATA</b>									
Fax Number:	(571)327-5452								
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>									
Phone:	571-327-5450								
Email:	ipntlaw@ipntlaw.com								
Correspondent Name:	IP & T GROUP LLP								
Address Line 1:	7700 Little River Turnpike								
Address Line 2:	Suite 207								
Address Line 4:	Annandale, VIRGINIA 22003								
ATTORNEY DOCKET NUMBER:	P09H0333/US								
NAME OF SUBMITTER:	Jung H. Kim								

Total Attachments: 2  
 source=P09H0333US-Assignment#page1.tif

**501337084**

**PATENT  
 REEL: 025226 FRAME: 0650**

**OP \$40.00 12916901**



ASSIGNMENT OF PATENT APPLICATION

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

PHASE LOCKED LOOP

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 November 1, 2010 (Application No. 12/916,901).

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 **Hynix Semiconductor Inc.**, a corporation of the Republic of Korea, whose post office address is **San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-701, Republic of Korea** (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 above-mentioned 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 hereunto set our hands.

Signature of first assignor: Hae Rang Choi Date October 18, 2010  
Name of first assignor: **CHOI, Hae-Rang**  
Address: **San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-701, Republic of Korea**

Signature of second assignor: Yong Ju Kim Date October 18, 2010  
Name of second assignor: **KIM, Yong-Ju**  
Address: **San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-701, Republic of Korea**

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

Jaemin Jang Date October 18, 2010  
JANG, Jae-Min  
San 136-1, Ami-ri, Bubal-eup, Icheon-si, Gyeonggi-do 467-701, Republic of Korea