

## PATENT ASSIGNMENT

Electronic Version v1.1  
 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT						
NATURE OF CONVEYANCE:	ASSIGNMENT						
CONVEYING PARTY DATA							
<table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Hee-Jun SHIM</td> <td>11/30/2012</td> </tr> <tr> <td>Yeon-Gon CHO</td> <td>12/10/2012</td> </tr> </tbody> </table>		Name	Execution Date	Hee-Jun SHIM	11/30/2012	Yeon-Gon CHO	12/10/2012
Name	Execution Date						
Hee-Jun SHIM	11/30/2012						
Yeon-Gon CHO	12/10/2012						
RECEIVING PARTY DATA							
Name:	Samsung Electronics Co., Ltd.						
Street Address:	129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742						
City:	Suwon-si						
State/Country:	KOREA, REPUBLIC OF						
PROPERTY NUMBERS Total: 1							
<table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13734526</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13734526		
Property Type	Number						
Application Number:	13734526						
CORRESPONDENCE DATA							
Fax Number:	2023153758						
<i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i>							
Phone:	202-429-0020						
Email:	info@nsiplaw.com						
Correspondent Name:	NSIP LAW						
Address Line 1:	P.O. Box 34688						
Address Line 4:	Washington, DISTRICT OF COLUMBIA 20043						
ATTORNEY DOCKET NUMBER:	012053.0239						
NAME OF SUBMITTER:	Nicholas M. Stabler						
Total Attachments: 2 source=NewApp_0120530239_AssignmentExecuted#page1.tif source=NewApp_0120530239_AssignmentExecuted#page2.tif							

CH \$40.00 13734526

## ASSIGNMENT

For valuable consideration, we,

**Hee-Jun SHIM** 101-806 Samchully Apt., 70-20 Yeomchang-dong,  
Gangseo-gu, Seoul, Republic of Korea

**Yeon-Gon CHO** 407-601 Gyeongnam honorsville Apt., Solbit Maeul,  
Bansong-dong, Hwaseong-si, Gyeonggi-do,  
Republic of Korea

hereby assign to:

**SAMSUNG ELECTRONICS CO., LTD.**, a Republic of Korea

corporation/institution/foundation/institute having principal executive office(s) or place of business at: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea; and

its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in the inventions and improvements which are subject of U.S. Patent Application Number 13/734,526 filed January 4, 2013 at the U.S. Patent & Trademark Office signed by us, with title HARDWARE DEBUGGING APPARATUS AND METHOD FOR SOFTWARE PIPELINED PROGRAM, and we authorize and request the attorneys appointed in said application to hereafter complete this assignment by inserting above the filing date and application serial number of said application when known; this Assignment including said application, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions or improvements, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and we authorize the Assignee to apply in all countries in our name or in its own name for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements; and we agree for ourselves and our respective heirs, legal representatives and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, preliminary statements and other lawful documents as the Assignee may reasonably request to effectuate fully this Assignment.

USPTO Case # 13-0000000

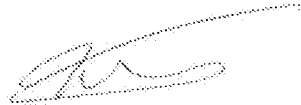
IN TESTIMONY/WITNESS WHEREOF, we, undersigned inventors (Assignors) intending to be legally bound, have hereto affixed our signatures.

This 30 day of Nov, 2012



Signature: **Hee-Jun SHIM**

This 10 day of Dec, 2012



Signature: **Yeon-Gon CHO**