

PATENT ASSIGNMENT

Electronic Version v1.1

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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>Aris PAPASAKELLARIOU</td> <td>08/02/2012</td> </tr> <tr> <td>Young-Bum KIM</td> <td>08/02/2012</td> </tr> <tr> <td>Jianzhong ZHANG</td> <td>08/07/2012</td> </tr> </tbody> </table>		Name	Execution Date	Aris PAPASAKELLARIOU	08/02/2012	Young-Bum KIM	08/02/2012	Jianzhong ZHANG	08/07/2012
Name	Execution Date								
Aris PAPASAKELLARIOU	08/02/2012								
Young-Bum KIM	08/02/2012								
Jianzhong ZHANG	08/07/2012								
RECEIVING PARTY DATA									
Name:	Samsung Electronics Co., Ltd.								
Street Address:	129, Samsung-ro, Yeongtong-gu								
City:	Suwon-si, Gyeonggi-do								
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>13572250</td> </tr> </tbody> </table>		Property Type	Number	Application Number:	13572250				
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Application Number:	13572250								
CORRESPONDENCE DATA									
Fax Number:	5162288475								
Phone:	5162283565								
Email:	Genmail@farrelliplaw.com								
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i>									
Correspondent Name:	Paul J. Farrell								
Address Line 1:	290 Broadhollow Road, Suite 210E								
Address Line 4:	Melville, NEW YORK 11747								
ATTORNEY DOCKET NUMBER:	678-4260								
NAME OF SUBMITTER:	Paul J. Farrell								
Total Attachments: 6 source=ASSIGNMENT#page1.tif source=ASSIGNMENT#page2.tif source=ASSIGNMENT#page3.tif source=ASSIGNMENT#page4.tif source=ASSIGNMENT#page5.tif source=ASSIGNMENT#page6.tif									

OP \$40.00 13572250

ASSIGNMENT Docket No. 678-4260 (P18713-US/DMC)

AS A BELOW NAMED INVENTOR, I, and each of us, individually hereby declare that: IN CONSIDERATION of the sum of TEN (\$10.00) dollars or the equivalent thereof, and other good and valuable consideration, the receipt of which from the hereinafter named Assignee is hereby acknowledged, I do hereby sell, assign and forever grant and convey unto:

ASSIGNEE: Samsung Electronics Co., Ltd.

ADDRESS: 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 443-742, Republic of Korea

Who is my Assignee, and to the successes and assigns of my Assignee, all my right, title and interest, in and for the United States of America and all other countries, including all rights of priority, in and to the invention entitled:

TITLE: EXTENSION OF PHYSICAL DOWNLINK CONTROL CHANNELS IN A COMMUNICATION SYSTEM

Invented by me (if only one inventor is named below) or us (if more than one inventor is named below) and described in an application for a United States patent the specification of which is either attached hereto or otherwise accompanies this Assignment or indicates an attorney docket no. 678-4260 (P18713-US/DMC), or is more particularly identified as:

- executed on even date herewith, or
 Serial No. 13/572,250 filed in the U.S. Patent & Trademark Office on August 10, 2012, or
 executed on _____

and in and to all United States patents which may be granted thereon and therefore, and in and to all certificates of corrections, divisions, continuations, continuations-in-part, reissued and re-examined patents, and to any extensions thereof, said interest being the entire ownership of the patent when granted, to be held and enjoyed by said SAMSUNG ELECTRONICS CO., LTD., my Assignee, its successors, assigns or other legal representatives, to the full end of the term, terms, or any extension or renewal thereof, for which said patent or patents may be granted, as fully and entirely as the same would have been held and enjoyed by me or us if this assignment, sale and conveyance had not been made;

AND I hereby covenant and agree to sign and execute any further documents or instruments which may from time-to-time be either necessary, lawful, proper or requested by the Assignee, in the prosecution of the above-named application or in the preparation and prosecution of any certificate of correction, division, continuation, continuation-in-part, reissue, re-examination, in any amendment, extension, or interference proceeding, whether administrative or judicial, or otherwise, to secure the title hereto in said Assignee;

AND I do hereby authorize and request the Commissioner of Patents and Trademarks to issue said Patent or Patents to the Assignee, and I hereby appoint as my, or our attorney, and authorize and request Paul J. Farrell, Reg. No. 33,494, to insert on this Assignment any further identification or to complete such identification which may be either necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

And I further covenant that ASSIGNEE will, upon its request, be provided promptly with all pertinent facts and documents relating to said Invention and said Letters Patent and legal equivalents as may be known and accessible to ASSIGNOR and will testify as to the same in any interference, litigation or proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.

IN WITNESS WHEREOF, I and we have set our hands and seals on the dates written beside my and our respective names:

<u>INVENTOR(S)</u>	<u>Date Signed</u>	<u>Witness(es)</u>
A. Papasakellariou 1) _____ Aris PAPASAKELLARIOU	(Seal) Aug. 2, 2012 _____	_____
2) _____ Young-Bum KIM	(Seal) _____	_____
3) _____ Charlie ZHANG	(Seal) _____	_____

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2) _____ Young-Bum KIM	(Seal) <u>Aug. 2, 2012</u>	_____
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1) <u>Ants PAPASAKELLARIOU</u>	(Seal) _____	_____
2) <u>Young BUN-KIM</u>	(Seal) _____	_____
3) <u>DENG ZHANG</u> Jianzhong Zhang	(Seal) <u>8/21/12</u>	_____