## PATENT ASSIGNMENT

## Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

### **CONVEYING PARTY DATA**

Name	Execution Date
Jin Young CHUN	04/01/2013
Jin Sam KWAK	04/10/2013
Hee Jeong CHO	04/01/2013
Bin Chul IHM	04/30/2013
Young Soo YUK	04/02/2013

### **RECEIVING PARTY DATA**

Name:	LG Electronics Inc.		
Street Address:	20 Yeouido-dong, Yeongdeungpo-gu		
City:	Seoul		
State/Country:	KOREA, REPUBLIC OF		
Postal Code:	150-721		

## PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13883359

## **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER:	002027-5088	
NAME OF SUBMITTER:	Robert J. Goodell	
Signature:	/Robert J. Goodell/	PATENT

502334670 REEL: 030346 FRAME: 0212

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Date:	05/03/2013
Total Attachments: 8 source=002027-5088-Assignment#page1.tif source=002027-5088-Assignment#page2.tif source=002027-5088-Assignment#page3.tif source=002027-5088-Assignment#page4.tif source=002027-5088-Assignment#page5.tif source=002027-5088-Assignment#page6.tif source=002027-5088-Assignment#page7.tif source=Page8#page1.tif	

PATENT REEL: 030346 FRAME: 0213

ATTORNEY DOCKET NO.: 0XXXXX-XXXX
SOLE/JOINT INVENTION
(U.S. Rights Only)

#### ASSIGNMENT

WHEREAS I/We, the below named inventor(s), CHUN, Jin Young; KWAK, Jin Sam; CHO, Hee Jeong; IHM, Bin Chul and YUK, Young Soo, all of LG R & D Complex 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749, Republic of Korea, have made an invention entitled:

METHOD AND APPARATUS FOR ALLOCATING BANDWIDTH REQUEST CHANNEL IN WIRELESS COMMUNICATION SYSTEM INCLUDING RELAY STATION

for which I/WE executed an application for United S	States Letters Patent concurrent	ly herewith, or filed an
application for United States Letters Patent on	(Application No	), based on PCT
International Application No. PCT/KR2011/004790;	and	
••		

WHEREAS, <u>LG ELECTRONICS INC.</u>, a corporation of <u>the Republic of Korea</u>, whose post office address is <u>20</u>, <u>Yeouido-dong</u>, <u>Yeongdeungpo-gu</u>, <u>Seoul</u>, <u>150-721</u>, <u>Republic of Korea</u>, (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to issue upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from assignee 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 the assignee, its lawful successors and assigns, MY/OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof; and I/WE hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/WE will, without further consideration, communicate with 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 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 assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, 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 I/WE have empowered in the Declaration and Power of Attorney in this application, to insert here in parenthesis (Application No. 13/883,359 filed May 3, 2013 ) the filing date and application number of said application when known.

IN TESTIMONY WHEREOF, I/WE have hereunto set our hand(s).

Full Name of Sole or First Assignor CHUN, Jin Young	Assignor's Signature	Date April. 14, 2013
LG R&D Complex, 533, Hogye 1-dong, Don	gan-gu, Anyang-si, Gyeonggi-do	Citizenship
431-749 Republic of Korea	in the	Korea
Names of additional inventors attached [V]	Yes No	

1-WA/1632828.2

PATENT REEL: 030346 FRAME: 0214

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION

	APTO	SOLE/JOINT INVENTION (U.S. Rights Only) (Continued)	
Full Name of Second Assignor KWAK, Jin Sam	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu 431-749 Republic of Korea	, Aityang-si, Gyeonggi-do	Citizenship Korea	
Full Name of Third Assignor CHO, Hee Jeong	Assignor's Signature	Date   April   1. 2013	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu 431-749 Republic of Korea	, Anyang-si, Gyeonggi-do	Citizenship Korea	
Full Name of Fourth Assignor IHM, Bin Chul	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu 431-749 Republic of Korea	i, Anyang-si, Gyeonggi-do	Citizenship Korea	
Full Name of Fifth Assignor YUK, Young Soo	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu 431-749 Republic of Korea	g with	Citizenship Korea	
Names of additional inventors attached [ ] Yes	[V] No		

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION (U.S. Rights Only)

#### **ASSIGNMENT**

WHEREAS I/We, the below named inventor(s), CHUN, Jin Young; KWAK, Jin Sam; CHO, Hee Jeong; IHM, Bin Chul and YUK, Young Soo, all of LG R & D Complex 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749, Republic of Korea, have made an invention entitled:

Anyang-si, Gyeonggi-do 431-749, Republic of Korea, have made an invention entitled:
METHOD AND APPARATUS FOR ALLOCATING BANDWIDTH REQUEST CHANNEL IN WIRELESS COMMUNICATION SYSTEM INCLUDING RELAY STATION
for which I/WE executed an application for United States Letters Patent concurrently herewith, or filed an application for United States Letters Patent on(Application No), based on PCT International Application No. <u>PCT/KR2011/004790</u> ; and
WHEREAS, <u>LG ELECTRONICS INC.</u> , a corporation of <u>the Republic of Korea</u> , whose post office address is <u>20</u> , <u>Yeouido-dong</u> , <u>Yeongdeungpo-gu</u> , <u>Seoul</u> , <u>150-721</u> , <u>Republic of Korea</u> , (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to issue upon this application;
NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from assignee 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 the assignee, its lawful successors and assigns, MY/OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof; and I/WE hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;
AND, I/WE HEREBY further covenant and agree that I/WE will, without further consideration, communicate with 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 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 assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, 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 I/WE have empowered in the Declaration

AND, I/WE HEREBY authorize and request the attorneys I/WE have empowered in the Declaration and Power of Attorney in this application, to insert here in parenthesis (Application No. 13/883,359 , filed May 3, 2013 ) the filing date and application number of said application when known.

IN TESTIMONY WHEREOF, I/WE have hereunto set our hand(s).

CHUN, Jin Young	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu 431-749 Republic of Korea	ı, Anyang-si, Gyeonggi-do	Citizenship Korea

1-WA/1632828.2

Names of additional inventors attached [	* * * 7 *	r		
Names of additional inventors attached	V + Y	/ AC	I No	
Transport accurrental in ventors attached	. •	. 03	] 110	li li

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION

(U.S. Rights Only) (Continued)

Full Name of Second Assignor	Assignor's Signature	Date	
KWAK, Jin Sam		Apr. 10, 2013	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korea		Citizenship Korea	
Full Name of Third Assignor CHO, Hee Jeong	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korea		Citizenship Korea	
Full Name of Fourth Assignor IHM, Bin Chul	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korea		Citizenship Korea	
Full Name of Fifth Assignor YUK, Young Soo	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korea		Citizenship Korea	
Names of additional inventors attached [ ] Yes	[ V ] No		

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION

(U.S. Rights Only)

#### ASSIGNMENT

WHEREAS I/We, the below named inventor(s), CHUN, Jin Young; KWAK, Jin Sam; CHO, Hee Jeong; IHM, Bin Chul and YUK, Young Soo, all of LG R & D Complex 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749, Republic of Korea, have made an invention entitled:

# METHOD AND APPARATUS FOR ALLOCATING BANDWIDTH REQUEST CHANNEL IN WIRELESS COMMUNICATION SYSTEM INCLUDING RELAY STATION

for which I/WE executed an application for	United States Le	tters Patent conc	urrently herewith,	or filed an
application for United States Letters Patent	on (	Application No.	), base	d on PCT
International Application No. PCT/KR2011	<u>/004790</u> ; and			

WHEREAS, <u>LG ELECTRONICS INC.</u>, a corporation of <u>the Republic of Korea</u>, whose post office address is <u>20</u>, <u>Yeouido-dong</u>, <u>Yeongdeungpo-gu</u>, <u>Seoul</u>, <u>150-721</u>, <u>Republic of Korea</u>, (hereinafter referred to as Assignee), is desirous of securing the entire right, title, and interest in and to this invention, the application for United States Letters Patent on this invention and the Letters Patent to issue upon this application;

NOW THEREFORE, be it known that, for good and valuable consideration the receipt of which from assignee 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 the assignee, its lawful successors and assigns, MY/OUR entire right, title, and interest in and to this invention and this application, and all divisions, and continuations thereof, and all Letters Patent of the United States which may be granted thereon, and all reissues thereof; and I/WE hereby authorize and request the Commissioner of Patents and Trademarks of the United States to issue all Letters Patent for this invention to assignee, its successors and assigns, in accordance with the terms of this Assignment;

AND, I/WE HEREBY further covenant and agree that I/WE will, without further consideration, communicate with 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 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 assignee, its successors and assigns, to obtain and enforce proper patent protection for this invention in the United States, it being understood that any expense incident to the execution of such papers shall be borne by the assignee, its successors and assigns.

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IN TESTIMONY WHEREOF, I/WE have hereunto set our hand(s).

Full Name of Sole or First Assignor CHUN, Jin Young	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korca		Citizenship Korea
Names of additional inventors attached [V]Y	es []No	

1-WA/1632828.2

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION (U.S. Rights Only) (Continued)

Full Name of Second Assignor KWAK, Jin Sam	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Donga 431-749 Republic of Korea	ın-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Full Name of Third Assignor CHO, Hee Jeong	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do 431-749 Republic of Korea		Citizenship Korea
Full Name of Fourth Assignor IHM, Bin Chul	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Donga 431-749 Republic of Korea	n-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Full Name of Fifth Assignor YUK, Young Soo	Assignor's Signature	Date April 2 2013
LG R&D Complex, 533, Hogye 1-dong, Donga 431-749 Republic of Korea	n-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Names of additional inventors attached [ ] Ye	s [V]No	

ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION

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International Application No. PCT/KR2011/	<u>004790</u> ; and	

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Full Name of Sole or First Assignor CHUN, Jin Young	Assignor's Signature	Date	
LG R&D Complex, 533, Hogye 1-dong, Dongan-gu, Anyang-si, Gyeonggi-do		Citizenship	
431-749 Republic of Korea		Korea	
Names of additional inventors attached [V] Yes	[ ] No		

1-WA/1632828.2

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ATTORNEY DOCKET NO.: 0XXXXX-XXXX SOLE/JOINT INVENTION (U.S. Rights Only) (Continued)

Full Name of Second Assignor KWAK, Jin Sam	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Donga 431-749 Republic of Korea	nn-gu, Anyang-si, Gyeonggi-do	Citízenship Korea
Full Name of Third Assignor CHO, Hee Jeong	Assignor's Signature	Date
LG R&D Complex, 533, Hogye 1-dong, Dongs 431-749 Republic of Korea	an-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Full Name of Fourth Assignor IHM, Bin Chul	Assignor's Signature	Date 30 Apr. 2013
LG R&D Complex, 533, Hogye 1-dong, Dongo 431-749 Republic of Korea	an-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Full Name of Fifth Assignor YUK, Young Soo	Assignor's Signature	Date
LG R&D Complex, 533, Hogye I-dong, Dongs 431-749 Republic of Korea	an-gu, Anyang-si, Gyeonggi-do	Citizenship Korea
Names of additional inventors attached [ ] Ye	es [V]No	

I-WA/1632828.2

REEL: 030346 FRAME: 0221

**RECORDED: 05/03/2013**