# 504458385 07/14/2017

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4505086

SUBMISSION TYPE: NATURE OF CONVEYANCE:		NEW ASSIGNMENT ASSIGNMENT	
		Name	Execution Date
HAK SEONG KIM			04/01/2009
SUNG DUK CHOI			04/01/2009
KI JUN KIM			04/01/2009
SUK HYON YOON			04/01/2009
JOON KUI AHN			04/01/2009
BONG HOE KIM			04/01/2009
DONG YOUN SEO			04/01/2009
YOUNG WOO YUN			04/01/2009
JUNG HOON LEE		04/01/2009	
SEONG HOON JEONG			04/02/2009
RECEIVING PARTY DA	ГА		
Name:	LG ELECTRONICS INC.		
Street Address:	20 YO	IDO-DONG, YOUNGDUNGPO-GU	
City:	SEOU	L	
State/Country:	KOREA, REPUBLIC OF		
Postal Code:	150-01	0	
PROPERTY NUMBERS	Total: 1		
Property Type		Number	
Application Number:		15650579	

### CORRESPONDENCE DATA

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NAME OF SUBMITTER:	MICHAEL E. MONACO	
SIGNATURE:	/Michael Monaco/	
DATE SIGNED:	07/14/2017	
Total Attachments: 8		
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source=2101-3648C1C1C1C1C1-ParentAssignment#page4.tif		
source=2101-3648C1C1C1C1C1-ParentAssignment#page5.tif		
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source=2101-3648C1C1C1C1C1-ParentAssignment#page7.tif		
source=2101-3648C1C1C1C1C1-ParentAssignment#page8.tif		

#### ASSIGNMENT

(1-12)Insert Name(s) of Inventor(s) (1) HAK SEONG KIM(2) SUNG DUK CHOI

(7) DONG YOUN SEO (8) YOUNG WOO YUN

(11)

- (3) KI JUN KIM
- (4) SUK HYON YOON
- (5) JOON KUI AHN

set over to

(14) Korea

(17)

- (9) JUNG HOON LEE
  - (10) SEONG HOON JEONG
- OON KUI AHN
- (6) BONG HOE KIM (12) In consideration of the sum of one dollar (\$1.00) and other good and valuable considerations paid to each of the undersigned, the undersigned agree(s) to assign, and hereby does assign, transfer and
- (13) Insert name of Assignee
- (14) Insert state of Incorporation of Assignee
- (15) Insert address of Assignee

(16) Insert identification of

(13) LG ELECTRONICS INC.

(15) 20 Yoldo-dong, Youngdungpo-gu, Seoul, 150-010, Korea

(hereinafter designated as the Assignee) the entire worldwide right, title and interest in the invention known as

#### (16) METHOD FOR TRANSMITTING CONTROL SIGNAL USING EFFICIENT MULTIPLEXING

for which the undersigned has (have) executed an application for patent in the United States of America and all patent applications in foreign countries corresponding thereto or based thereon.

(17) Insert Date of Signing of Application

Invention, such as Title,

Case Number or Foreign Application Number

April 1, 2009 and April 2, 2009

1) The undersigned agree(s) to execute all papers necessary in connection with any original, reissue, divisional and continuing United States and foreign applications for the above-identified invention and also to execute separate assignments in connection with such applications as the Assignee may deem necessary or expedient.

2) The undersigned agree(s) to execute all papers necessary in connection with any interference which may be declared concerning this application or continuation or division thereof and to cooperate with the Assignee in every way possible in obtaining evidence and going forward with such interference.

3) The undersigned agree(s) to execute all papers and documents and perform any act which may be necessary in connection with claims or provisions of the International Convention for Protection of Industrial Property or similar agreements.

4) The undersigned agree(s) to perform all affirmative acts which may be necessary to obtain a grant of a valid United States patent to the Assignee.

5) The undersigned hereby authorize(s) and request(s) the Commissioner of Patents to issue any and all Letters Patents of the United States resulting from said application or any division or divisions or continuing applications thereof to the said Assignee, as Assignee of the entire interest, and hereby covenants that he has (they have) full right to convey the entire interest herein assigned, and that he has (they have) not executed any agreement in conflict herewith.

The undersigned hereby appoints the Attorneys associated with Customer No. 035884 the power to insert on this assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this accument.

1) Date:	L. April, 2009	Signature of Inventor
2) Date:		Signature of inventor
3) Date:	1 April. 2014	Signature of Inventor
4) Date:		Signature of Inventor
5) Date:	1. Apr. 2009	Signature of Inventor
6) Date:	1_Apr. 2008	Signature of Inventor
7) Date:	1. Apr. 2003	Signature of Inventor
8) Date:	1. Apr. 2001	Signature of Inventor
9) Date:	1.Apr. 2009	Signature of Inventor
10) Date:		Signature of Inventor

2/2

ς.

(9) JUNG HOON LEE

(10) SEONG HOON JEONG

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- (7) DONG YOUN SEO (8) YOUNG WOO YUN
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- (4) SUK HYON YOON

(6) BONG HOE KIM

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- (11) (12)

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- (14) Korea
- (15) Insert eddress of Assignee (15) 20 Yoldo-dong, Youngdungpo-gu, Seoul, 150-010, Korea

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PATENT REEL: 043012 FRAME: 0201

(16) Insert identification of Invention, such as Title, Case Number or Foreign

Application Number

(13) Insert name of Assignee

of Assignee

(14) Insert state of Incorporation

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· . .

1) Date:	Signature of Inventor
2) Date: <u>04/0/2009</u>	Signature of Inventor
3) Date:	Signature of Inventor
4) Date:	Signature of Inventor
5) Date.	Signature of Inventor
6) Date:	Signature of inventor
7) Date:	Signature of inventor
8) Date:	Signature of Inventor
9) Dale:	Signature of inventor
10) Date:	Signature of Inventor
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PATENT

REEL: 043012 FRAME: 0202

(9) JUNG HOON LEE

#### ASSIGNMENT

(1-12)Insert Name(s) of Inventor(s) (1) HAK SEONG KIM

- (7) DONG YOUN SEO (8) YOUNG WOO YUN
- (2) SUNG DUK CHOI (3) KI JUN KIM

(14) Korea

- (4) SUK HYON YOON
- (5) JOON KUI AHN
- (10) SEONG HOON JEONG (11)

(12)

(8) BONG HOE KIM

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2) Date:	Signature of Inventor
3) Date:	Signature of Inventor
4) Date: <u>April 1, 2009</u>	Signature of Inventor
5) Date:	Signature of Inventor
6) Date:	Signature of inventor
7) Date:	Signature of inventor
8) Date:	Signature of Inventor
9) Date:	Signature of Inventor
10) Date:	Signature of Inventor

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(9) JUNG HOON LEE

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PATENT REEL: 043012 FRAME: 0205

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5) Date:	Signature of Inventor
6) Date:	Signature of Inventor
7) Date:	Signature of Inventor
8) Date:	Signature of Inventor
9) Date:	Signature of Inventor
10) Date: 2009, 4.2	Signature of Inventor

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**RECORDED: 07/14/2017**