### PATENT ASSIGNMENT

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

SUBMISSION TYPE: NEW ASSIGNME		NEW ASSIGNMENT		<u> </u>
NATURE OF CONVI	TURE OF CONVEYANCE: ASSIGNMENT			
CONVEYING PART	Y DATA			
		Name	Execution Date	
Wangmyong Woo			11/19/2009	
Chang-Ho Lee			11/19/2009	
Jaejoon Chang			11/19/2009	
Haksun Kim			11/19/2009	
Minsik Ahn			11/19/2009	
Joy Laskar			11/19/2009	
RECEIVING PARTY	DATA			
Name:	Samsung Ele	Samsung Electro-Mechanics Company, Ltd.		
Street Address:	314, Maetan	3-Dong, Yeongtong-Gu		
City:	Gyunggi-Do			
State/Country:	KOREA, DEMOCRATIC PEOPLE'S REPUBLIC OF			
Name:	Georgia Tech	Georgia Tech Research Corporation		
Street Address:	505 10th Stre	et, NW		
City:	Atlanta			
State/Country:	GEORGIA			
Postal Code:	30332-0412			
PROPERTY NUMBE	RS Total: 1			
Property <sup>-</sup>	Туре	Number		
Application Number:		11754103		
, pplication Number				
CORRESPONDENC	E DATA			
	E DATA (404)853	3-8806		
CORRESPONDENC Fax Number: <i>Correspondence will</i>	(404)853 I be sent via US	Mail when the fax attempt is unsuccessful.		
CORRESPONDENC	(404)855 ( <i>be sent via US</i> 4048538	Mail when the fax attempt is unsuccessful.		

### PATENT REEL: 023572 FRAME: 0147

501025767

Address Line 1:999 PeachtreeAddress Line 4:Atlanta, GEOR	Street, NE GIA 30309-3996
ATTORNEY DOCKET NUMBER:	24734-0022
NAME OF SUBMITTER: Jason V. Chang	
Total Attachments: 10 source=Assignment (Samsung)#page1.tif source=Assignment (Samsung)#page3.tif source=Assignment (Samsung)#page4.tif source=Assignment (Samsung)#page5.tif source=Assignment (Samsung)#page6.tif source=Assignment (GTRC)#page1.tif source=Assignment (GTRC)#page2.tif source=Assignment (GTRC)#page3.tif source=Assignment (GTRC)#page3.tif	

WHEREAS, we, WANGMYONG WOO, a citizen of KOREA, residing at 1059 Windermere Crossing, Cumming, GA 30041, USA; CHANG-HO LEE, a citizen of KOREA, residing at 1944 Bennetts Point Drive, Marietta, GA 30068, USA; JAEJOON CHANG, a citizen of Korea, residing at 110 Jilstone Court, Duluth, GA 30097, USA; and HAKSUN KIM, a citizen of the KOREA, residing at 1682 Seocho-Dong, Seocho-Gu, Seocho Raemian Apt. 102-1901, Seoul, KOREA, invented certain inventions and improvements disclosed in a nonprovisional patent application entitled "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS," filed in the United States Patent and Trademark Office on May 25, 2007, under Application No. 11/754,103 and Docket No. 24734-0022; and

WHEREAS, Samsung Electro-Mechanics Company, Ltd., a corporation in the country of KOREA, having a principal place of business at 314, Maetan 3-Dong, Yeongtong-Gu, Suwon, Gyunggi-Do, is desirous of acquiring an interest in the same;

NOW, THEREFORE, for and in consideration of Five Dollars (\$5.00) and other good and valuable consideration, the receipt and sufficiency of which we, WANGMYONG WOO, CHANG-HO LEE, JAEJOON CHANG, and HAKSUN KIM, by these presents do sell, assign and transfer unto Samsung Electro-Mechanics Company, Ltd. the full, exclusive and entire right, title, and interest in and to said application, and in and to all inventions and improvements disclosed and described in said application;

For the same consideration, we, by these presents do sell, assign, and transfer to Samsung Electro-Mechanics Company, Ltd., the full, exclusive, and entire right, title and interest in and to any foreign application or applications corresponding to said application, in whole or in part, in countries other than the United States, in and to any Letters Patent and similar protective rights granted on said foreign applications, and in and to the right to claim any applicable priority rights arising from or required for said foreign applications under the terms of any applicable conventions, treaties, statutes, or regulations; said foreign applications to be filed Attorney Docket No.: 24734-0022

Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 2 of 6

and issued in the name of **Samsung Electro-Mechanics Company, Ltd.**, or its designee insofar as permitted by applicable law.

AND, for the same consideration, we agree to sign all lawful papers, execute all nonprovisional applications and other applications, make all assignments and rightful oaths, and generally do everything possible to aid Samsung Electro-Mechanics Company, Ltd., its successors, assigns, and nominees, to obtain and enforce proper protection for all said inventions and improvements in all countries throughout the world.

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 3 of 6

### **INVENTOR 1**

- Men	ng pryong	NOU
Wangmyo	ng Woo	/
WITNESS:	Serpmo	<u> </u>
WITNESS:	Woony	in kin

Date: 11/19/2009

2009 Date: 11 12009 11 19 Date:

<u>OR</u>

# USE SECTION BELOW ONLY IF SIGNING IN PRESENCE OF A NOTARY

	Date:	
Wangmyong Woo	4	
STATE OF)		
ss.		
COUNTY OF)		
Before me, a Notary Public in and for the State of	, on this	day of
, 2009, personally appeared Wangmyo	ng Woo, who being du	ly sworn, signed and
acknowledged the foregoing Assignment as his free act a		

(SEAL)

(Notary Public)

8733545.1

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 4 of 6

INVENTOR 2		
- thornapts	Date:	11/19/09
Chang-Ho Lee		
WITNESS:	Date:	11/19/2009
WITNESS: 1000mpm Kim	Date:	11/19/2009

# USE SECTION BELOW ONLY IF SIGNING IN PRESENCE OF A NOTARY

	Date:	
Chang-Ho Lee		
STATE OF)		
SS.		
COUNTY OF)		
Before me, a Notary Public in and for the State of	, on this	day of
, 2009, personally appeared Chang-H	o Lee, who being duly s	worn, signed and
acknowledged the foregoing Assignment as his free act	and deed.	

(SEAL)

(Notary Public)

#### Attorney Docket No.: 24734-0022

INVENTOD 2

Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 5 of 6

INVENIOR 5
/uezoroleog
Jaejoon Chang
WITNESS: JAMMo J- WITNESS: Wanyunkin

Date: 11/19/2009

Date: 11/19/2009 - Date: 11/19/2009

### USE SECTION BELOW ONLY IF SIGNING IN PRESENCE OF A NOTARY

	Date:	
Jaejoon Chang		
STATE OF)		
SS.		
COUNTY OF)		
Before me, a Notary Public in and for the State of	, on this	day of
, 2009, personally appeared Jaejoon C	hang, who being duly	sworn, signed and
acknowledged the foregoing Assignment as his free act ar	nd deed.	

(SEAL)

(Notary Public)

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 6 of 6

INVENTOR 4	Zam
Haksun Kim	
WITNESS:	Ann
WITNESS:	Chorages

Date: 11/19/2009

Date: 111912009Date: 111912009

<u>OR</u>

### USE SECTION BELOW ONLY IF SIGNING IN PRESENCE OF A NOTARY

_	Date:	
Haksun Kim		
STATE OF)		
ss.		
COUNTY OF)		
Before me, a Notary Public in and for the State of	, on this	day of
, 2009, personally appeared Haksun K	im, who being duly sv	worn, signed and
acknowledged the foregoing Assignment as his free act an	nd deed.	

(SEAL)

(Notary Public)

WHEREAS, we, MINSIK AHN, a citizen of SOUTH KOREA, residing at 70 Perimeter Center East, #2422, Atlanta, GA 30346, USA; and JOY LASKAR, a citizen of THE UNITED STATES OF AMERICA, residing at 860 Saints Drive, Marietta, GA 30068, USA, invented certain inventions and improvements disclosed in a nonprovisional patent application entitled "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS," filed in the United States Patent and Trademark Office on May 25, 2007, under Application No. 11/754,103 and Docket No. 24734-0022; and

WHEREAS, GEORGIA TECH RESEARCH CORPORATION, a corporation of the State of Delaware, having a principal place of business at 505 10<sup>th</sup> Street, NW, Atlanta, GA 30332-0415, is desirous of acquiring an interest in the same;

NOW, THEREFORE, for and in consideration of Five Dollars (\$5.00) and other good and valuable consideration, the receipt and sufficiency of which we hereby acknowledge, we, MINSIK AHN and JOY LASKAR, by these presents do sell, assign and transfer unto GEORGIA TECH RESEARCH CORPORATION, the full, exclusive and entire right, title, and interest in and to said applications, in and to any divisions, continuations, continuations in parts, and reissues thereof, and in and to all inventions and improvements disclosed and described in said applications, preparatory to obtaining Letters Patent of the United States therefor; and we hereby request the Commissioner of Patents and Trademarks to issue any and all Letters Patent of the United States resulting from said applications, or from a division, continuation, continuation in part, or reissue thereof, to GEORGIA TECH RESEARCH CORPORATION, as the assignee, for its interest and for the sole use and benefit of GEORGIA TECH RESEARCH CORPORATION, and its assigns and legal representatives;

For the same consideration, we, by these presents do sell, assign, and transfer to **GEORGIA TECH RESEARCH CORPORATION**, the full, exclusive, and entire right, title and interest in and to any foreign application or applications corresponding to any of said applications, in whole or in part, in countries other than the United States, in and to any Letters

### PATENT REEL: 023572 FRAME: 0155

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 2 of 4

Patent and similar protective rights granted on said foreign applications, and in and to the right to claim any applicable priority rights arising from or required for said foreign applications under the terms of any applicable conventions, treaties, statutes, or regulations; said foreign applications to be filed and issued in the name of **GEORGIA TECH RESEARCH CORPORATION**, or its designee insofar as permitted by applicable law.

AND, for the same consideration, we agree to sign all lawful papers, execute all division, continuing, continuation in part, reissue and other applications, make all assignments and rightful oaths, and generally do everything possible to aid GEORGIA TECH RESEARCH CORPORATION, its successors, assigns, and nominees, to obtain and enforce proper protection, including the right to sue for patent infringement, for all said inventions and improvements in all countries throughout the world.

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 3 of 4

INVENTOR 1	
das	Date: 1/ / 19/09
Minsik Ahn	
WITNESS: homoh	Date: 11/19/09
WITNESS: <u>ahukyuttwan</u>	Date: 11/19/09 Date: 11/19/09
OR	
USE SECTION BELOW ONLY IF SIGNING IN PRES	ENCE OF A NOTARY
	Date:
Minsik Ahn	
STATE OF)	
SS.	
COUNTY OF)	
Before me, a Notary Public in and for the State of	, on this day of
, 20, personally appeared Minsik Ah	n, who being duly sworn, signed and
acknowledged the foregoing Assignment as his free act and	- · ·

(SEAL)

(Notary Public)

PATENT REEL: 023572 FRAME: 0157

#### Attorney Docket No.: 24734-0022 Assignment for "SYSTEMS, METHODS, AND APPARATUSES FOR COMPLEMENTARY METAL OXIDE SEMICONDUCTOR (CMOS) ANTENNA SWITCHES USING SWITCHED RESONATORS" Page 4 of 4

INVENTOR	$\begin{pmatrix} 2^2 \\ \end{pmatrix} \qquad \begin{pmatrix} 2 \\ 2 \\ \end{pmatrix} \qquad \begin{pmatrix} 2 \\ 2 \\ \end{pmatrix} \qquad \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \\ \end{pmatrix} \qquad \begin{pmatrix} 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2 \\ 2$
	toy tand
Joy Laskar	
WITNESS:	_ Champ
WITNESS:	alm Kepitavan_
	/

<u>0</u>9 Date:

19109 (l)Date:

11/19/09 Date:

<u>OR</u>

# USE SECTION BELOW ONLY IF SIGNING IN PRESENCE OF A NOTARY

	Date:	
Joy Laskar	<b></b>	
STATE OF)		
SS.		
COUNTY OF)		
Before me, a Notary Public in and for the State of	, on this	day of
, 20, personally appeared Joy Las	kar, who being duly s	worn, signed and
acknowledged the foregoing Assignment as his free act ar	nd deed.	

(SEAL)

(Notary Public)

PATENT REEL: 023572 FRAME: 0158

8733571.1

### **RECORDED: 11/25/2009**