504140261 12/12/2016

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4180105

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
ARTEM SERGEEVICH MIGUKIN	12/08/2016
DMITRY ALEXANDROVICH KOROBCHENKO	12/08/2016
MIKHAIL YURIEVICH SIROTENKO	12/08/2016
KIRILL ARTHUROVICH GAVRILYUK	12/08/2016
PRAVEEN GULAKA	12/08/2016
SANG-CHEON CHOI	12/08/2016
MICHAIL NIKOLAEVICH RYCHAGOV	12/08/2016
YANG LIM CHOI	12/08/2016

RECEIVING PARTY DATA

Name:	SAMSUNG ELECTRONICS CO., LTD.		
Street Address:	129, SAMSUNG-RO, YEONGTONG-GU, GYEONGGI-DO		
City:	SUWON-SI		
State/Country:	KOREA, REPUBLIC OF		
Postal Code:	16677		

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15307936

CORRESPONDENCE DATA

Fax Number: (202)293-7860

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 202-293-7060

Email: sughrue@sughrue.com, bjung@sughrue.com

Correspondent Name: SUGHRUE MION, PLLC

Address Line 1: 2100 PENNSYLVANIA AVENUE, N.W.

Address Line 2: SUITE 800

Address Line 4: WASHINGTON, D.C. 20037

ATTORNEY DOCKET NUMBER:	Q229770
NAME OF SUBMITTER:	BORAMJUNG - TEAM
SIGNATURE:	/boramjung/

DATE SIGNED:	12/12/2016			
	This document serves as an Oath/Declaration (37 CFR 1.63).			
Total Attachments: 18				
source=Q229770ExecutedDeclarationar	ndAssignment#page1.tif			
source=Q229770ExecutedDeclarationar	ndAssignment#page2.tif			
source=Q229770ExecutedDeclarationar	ndAssignment#page3.tif			
source=Q229770ExecutedDeclarationar	ndAssignment#page4.tif			
source=Q229770ExecutedDeclarationar	ndAssignment#page5.tif			
source=Q229770ExecutedDeclarationandAssignment#page6.tif				
source=Q229770ExecutedDeclarationandAssignment#page7.tif				
source=Q229770ExecutedDeclarationandAssignment#page8.tif				
source=Q229770ExecutedDeclarationandAssignment#page9.tif				
source=Q229770ExecutedDeclarationandAssignment#page10.tif				
source=Q229770ExecutedDeclarationandAssignment#page11.tif				
source=Q229770ExecutedDeclarationandAssignment#page12.tif				
source=Q229770ExecutedDeclarationar	source=Q229770ExecutedDeclarationandAssignment#page13.tif			
ource=Q229770ExecutedDeclarationandAssignment#page14.tif				

source=Q229770ExecutedDeclarationandAssignment#page15.tif source=Q229770ExecutedDeclarationandAssignment#page16.tif source=Q229770ExecutedDeclarationandAssignment#page17.tif source=Q229770ExecutedDeclarationandAssignment#page18.tif

Docket No.: O229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording but is prima facie evidence of execution under 35 USC 261)			
As the below named inventor, I hereb	y decla	re that:	
This assignment with declaration is directed to:		The attached application, or	
The application is entitled:	Ø	United States Application or PCT International Application Number PCT/KR2015/004446 filed on April 30, 2015 (Confirmation No).	

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVE	NTOR:					
Given Name						
(first and middle (if any))	Artem Sergeevich	Family Name or Surna	me MIGUKIN			
Inventor's signature		order of the state	December 8, 2016			
Residence: St. Petersburg, Russia						
Mailing Address: Novocherkassky pr., bld. 10, ap. 54, St.Petersburg, Russia						
NAME OF SECOND INVENTOR:	······					
Given Name (first and middle [if any])	Dmitry Alexandrovich	Family Name or Suma	me KOROBCHENKO			
Inventor's signature		<u> </u>	December 8, 2016			
Residence: Moscow, Rossia						
Mailing Address: Lavochkina str., i	bld, 34, blk. 1, ap. 155, Moscow, B	Eussia				
NAME OF THIRD INVENTOR:						
Given Name (first and middle [if any])	Mikhail Yurievich	Family Name or Suma	me SIROTENKO			
Inventor's signature			Date			
Residence: Moscow, Russia						
Mailing Address: Grekova str., bld.	1, ap. 22, Moscow, Russia	000000000000000000000000000000000000000				
NAME OF FOURTH INVENTOR:						
Given Name (first and middle [if any])	Kirili Anhurovich	Family Name or Sumam	e GAVRILYUK			
Inventor's signature			Date			
Residence: Moscow, Russia						
Mailing Address: st. Kedrova, bld. 13, blk. 1, ap. 45, Moscow, Bussia						
NAME OF FIFTH INVENTOR:		·				
Given Name (first and middle [if any])	Praveen	Family Name or Surname	e GULAKA			
inventor's signature			Date			
Residence: Suwon-si, Republic of Korea						
Mailing Address: 518-501, 25, Yeongtong-ro 290beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea						

NAME OF SIXTH INVENTOR:				
Given Name				
(first and middle [if any]) Sang-cheon	Family Name or Surname CHOI			
Inventor's signature	Date			
Residence: Seoul, Republic of Korex				
Mailing Address: #202, 32-7, Huam-m, Yongsan-gu, Scoul, Republic o	f Korea			
NAME OF SEVENTH INVENTOR:				
Given Name (first ænd middle [if any]) Michail Nikolaevich	Family Name or Surname RYCHAGOV			
Inventor's signature Alfan and A	Date December 8, 2016_			
Residence: Moscow, Russia				
Mailing Address: Panfliovsky pr., blk. 1145, ap. 96, Zelenograd, Moscow, Russia				
NAME OF EIGHTH INVENTOR:				
Given Name (first and middle [if any]) Yang Lim	Family Name or Sumame CHOL			
Inventor's signature	Date			
Residence: Seongnam-si, Republic of Korca				
Mailing Address: 103-503, 184, Migeum-ro, Bundang-gu, Seongnam-si	Gyeonggi-do, Republic of Korea			

Docket No.: Q229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording but is prima facie evidence of execution under 35 USC 261)				
As the below named inventor, I hereby declare that:				
This assignment with declaration is directed to:		The attached application, or		
	Ø	United States Application or PCT International Application Number <u>PCT/KR2015/004446</u> filed on <u>April 30, 2015</u> (Confirmation No).		
The application is entitled:		 -		

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVENTOR:						
Given Name						
(first and middle [if any])	Artem Sergeevich	Family Name or Surca	me	MIGUKIN		
Inventor's signature				Date		
Residence: St.Petersburg, Russis						
***************************************	, bid. 10, ap. 54, St Petersburg, R	ussis				
NAME OF SECOND INVENTOR:		·		***************************************		
Given Name	Socialists and social states of the States	S S S		r on on or more		
(first and middle [if any])	Dmitry Alexandrovich	Family Name or Sums	me	KOROBCHENKO		
Inventor's signature			Date			
Residence: Moscow, Russia						
Mailing Address: Lavochkina str., bld	t 34, blk. I, ap. 155, Mascow, Ri	488)ä	************			
NAME OF THIRD INVENTOR:						
Given Name (first and middle [if any]) Mikhall Yurievich Family Name or Sumame SIROTENKO						
Inventor's signature			Date I	December 8, 2016		
Residence: Moscow, Russia						
Minting Address: Grekove str., bld. 1, ap. 22. Moscow, Russia						
NAME OF FOURTH INVENTOR:						
Given Name						
(first and middle [if any])	Kirill Arthurovich	Family Name or Suman	ae .	GAVRILYDK		
Inventor's signature Date						
Residence: Moscow, Russia						
Mailing Address: st. Kedrova, hid. 13, bik. 1, ap. 45, Moscow, Russia						
NAME OF FIFTH INVENTOR:						
Given Name						
(first and middle [if any])	Praveen	Family Name or Surusa	66	GULAKA		
Inventor's signature			Date			
Residence: Summer, Republic of Korea						
Mailing						
Address: \$18-501, 25, Yeongtong-ro 290bson-gil, Yeongtong-gu, Sawon-si, Oyeonggi-do, Republic of Kores						

NAME OF SIXTH INVENTOR:				
Given Name (first and middle [if any]) Sang-cheon	Family Name or Surname CHOI			
Inventor's signature	Date			
Residence: Seoul, Republic of Korea				
Mailing Address: #202, 32-7, Huam-ro, Yongsan-gu, Seoul, Republi	c of Korea			
NAME OF SEVENTH INVENTOR:				
Given Name (first and middle [if any]) Michail Nikolaevich	Family Name or Surname RYCHAGOV			
Inventor's signature	Date			
Residence: Moscow, Russia				
Mailing Address: Panfilovsky pr., blk. 1145, ap. 96, Zelenograd, Moscow, Russia				
NAME OF EIGHTH INVENTOR:				
Given Name (first and middle [if any]) Yang Lim	Pamily Name or Surname CHOI			
Inventor's signature	Date			
Residence: Seongnam-si, Republic of Korea				
Mailing Address: 103-503, 184, Migeum-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Republic of Korea				

[Page 3] PATENT

REEL: 040706 FRAME: 0583

Docket No.: O229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD. of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording	g but	is prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereby	y decla	re that:
This assignment with declaration is directed to:		The attached application, or
anocout to.	Ø	United States Application or PCT International Application Number PCT/KR2015/004446 filed on April 30, 2015 (Confirmation No).
The application is entitled:		

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVENT	TOR:						
Given Name				******			
(first and middle [if any])	Artem Sergeevich	Family Name or Surna	me MIGUKIN				
Inventor's signature	***************************************		Date				
Residence: St.Petersburg, Russia							
Mailing Address: Novocherkassky pr.	, bld. 10, ap. 54, St.Petersburg, R	Cussia		0000000			
NAME OF SECOND INVENTOR:	************************************	***************************************					
Given Name							
(first and middle [if any])	Dmitry Alexandrovich	Family Name or Surna	me KOROBCHENKO				
Inventor's signature			Date				
Residence: Moscow, Russia							
Mailing Address: Lavochkina str., bld	. 34, blk. 1, ap. 155, Moscow, Ru	ıssia					
NAME OF THIRD INVENTOR:		***************************************		socoooo			
Given Name							
(first and middle [if any])	Mikhail Yurievich	Family Name or Surna	me SIROTENKO				
Inventor's signature			Date				
Residence: Moscow, Russia							
Mailing Address: Grekova str., bld. 1,	ap. 22, Moscow, Russia			******			
NAME OF FOURTH INVENTOR:							
Given Name							
	Kirill Arthurovich	Family Name or Surnam	e GAVRILYUK				
	Contraction of the Contraction o						
Inventor's signature	Saki	W	Date December 8, 2016				
Residence: Moscow, Russia							
Mailing Address: st. Kedrova, bld. 13, blk. 1, ap. 45, Moscow, Russia							
NAME OF FIFTH INVENTOR:							
Given Name							
The state of the s	Praveen	Family Name or Surname	e GULAKA				
Inventor's signature Date							
Residence: Suwon-si, Republic of Korea							
Mailing Address: 518-501, 25, Yeongtong-ro 290beon-gil, Yeongtong-gu,Suwon-si, Gyeonggi-do, Republic of Kores							

NAME OF SIXTH	INVENTOR:				
Given Name (first and middle [if	any])	Sang-cheon	Family Name or Suma	me	СНОІ
Inventor's signature				Date	
Residence:	Seoul, Republic of K	orea			
Mailing Address:	#202, 32-7, Huam-r	o, Yongsan-gu, Seoul, Republic of	f Korea		
NAME OF SEVEN	TH INVENTOR:				
Given Name (first and middle [if	any])	Michail Nikolaevich	Family Name or Suma	me	RYCHAGOV
Inventor's signature				Date	
Residence:	Moscow, Russia				
Mailing Address:	Panfilovsky pr., blk.	. 1145, ap. 96, Zelenograd, Mosco	w, Russia		
NAME OF EIGHT	H INVENTOR:				
Given Name (first and middle [if	any])	Yang Lim	Family Name or Surna	me	СНОІ
Inventor's signature				Date	
Residence:	Seongnam-si, Repub	lic of Korea			
Mailing Address:	103-503, 184, Mige	um-ro, Bundang-gu, Seongnam-si	, Gyeonggi-do, Republic	of Kore	3

Docket No.: Q229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, <u>SAMSUNG ELECTRONICS CO.</u> <u>LTD.</u> of <u>129</u>, <u>Samsung-ro</u>, <u>Yeongtong-gu</u>, <u>Suwon-si</u>, <u>Gyeonggi-do</u>, <u>16677</u>, <u>Republic of Korea</u>, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording	g but	is prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereby	y decla	re that:
This assignment with declaration is directed to:		The attached application, or
anocout to.	Ø	United States Application or PCT International Application Number PCT/KR2015/004446 filed on April 30, 2015 (Confirmation No).
The application is entitled:		

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVENTOR:						
Given Name						
(first and middle [if any]) Artem Sergeevich	Family Name or Surname MIGUKIN					
Inventor's signature	Date					
Residence: St.Petersburg, Russia						
Malling Address: Novocherkassky pr., bld. 10, ap. 54, St.Petersburg, R	1385ia					
NAME OF SECOND INVENTOR:						
Given Name (first and middle [if any]) Dmitry Alexandrovich	Family Name or Surname KOROBCHENKO					
Inventor's signature	Date					
Residence: Moscow, Russia						
Mailing Address: Lavochkina str., bld. 34, blk. 1, ap. 155, Moscow, Re	ıssia					
NAME OF THIRD INVENTOR:	·					
Given Name (first and middle [if any]) Mikhail Yurievich	Family Name or Surname SIROTENKO					
Inventor's signature	Date					
Residence: Moscow, Russia						
Mailing Address: Grekova str., bld. 1, ap. 22, Moscow, Russia						
NAME OF FOURTH INVENTOR:						
Given Name (first and middle [if any]) Kirill Arthurovich	Family Name or Surname GAVRILYUK					
Inventor's signature	Date					
Residence: Moscow, Russia						
Mailing Address: st. Kedrova, bld. 13, blk. 1, ap. 45, Moscow, Russia						
NAME OF FIFTH INVENTOR:						
Given Name (first and middle [if any]) Praveen	Family Name or Surname GULAKA					
Inventor's signature	Date December 8, 2016					
Residence: Suwon-si, Republic of Korea						
Mailing Address: 518-501, 25, Yeongtong-ro 290beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea						

NAME OF SIXTH INVENTOR:			
Given Name (first and middle [if any]) Sa	ang-cheon	Family Name or Surname	CHOI
(trist and initiale [ii any]) Sa	ang-choon	Tanniy Name of Sumanic	CHOI
Inventor's signature		ı	Date
Residence: Seoul, Republic of Kores	ca		
, , , , , , , , , , , , , , , , , , ,			
Mailing Address: #202, 32-7, Huam-ro, Y	Yongsan-gu, Seoul, Republic of	Korea	
NAME OF SEVENTH INVENTOR:	aansaadansaaannidaannaaanaannaannaannaannaannaanna	10000000000000000000000000000000000000	
Given Name			
	fichail Nikolaevich	Family Name or Surname	RYCHAGOV
Inventor's signature		lr	Date
Residence: Moscow, Russia	***************************************		
Mailing Address: Panfilovsky pr., blk. 114	45, ap. 96, Zelenograd, Moscov	w, Russia	
NAME OF EIGHTH INVENTOR:			
Given Name			
(first and middle [if any]) Ya	ang Lim	Family Name or Surname	СНОІ
Inventor's signature		<u> </u>	Date
Residence: Seongnam-si, Republic o	of Korea		
Mailing Address: 103-503, 184, Migeum-	-ro, Bundang-gu, Seongnam-si,	Gyeonggi-do, Republic of	Korea

PATENT [Page 3] **REEL: 040706 FRAME: 0589**

Docket No.: Q229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

<u>ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)</u>

Whereas, I/We, the undersigned inventor(s) hereinafter called assigner(s), have invented certain improvements described in the application identified below; and

Whereas, SAMSUNG ELECTRONICS CO., LTD, of 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Republic of Korea. (assignes), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignce, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to see for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording	ng bur	is prims facte evidence of execution under 35 USC 261)	
As the below named inventor, I hereb	y decla	ine that:	
This assignment with declaration is directed to:		The attached application, or	
The application is entitled:	Ø	United States Application or PCT International Application Number <u>PCT/KR2015/004446</u> filed on <u>April 30, 2015</u> (Confirmation No).	

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application,

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVENTOR:							
Given Name							
(first and middle [if any]) Artem Sergeevich	Family Name or Surname MIGUKIN						
Inventor's signature	Date						
. M. 1991(7) 37, M. 1991	; Danc						
Residence: St.Petersburg, Russia							
Mailing Address: Novocherkassky pr., bld, 10, ap. 54, St.Pet	ersburg, Russia						
NAME OF SECOND INVENTOR:							
Given Name (first and middle [if any]) Dmitry Alexandrovic	h Family Name or Surname KOROBCHENKO						
from any amount (a any).	e (Talling) State Or Shahstate ASSBOAR, STEES SRES						
Inventor's signature	Date						
Residence: Moscow, Russia							
Mailing Address: Lavochkina str., bld. 34, blk. 1, ap. 155, M	ravens Russia						
NAME OF THIRD INVENTOR:	VAAAW SAARRE						
Given Name							
(first and middle [if any]) Mikhail Yurievich	Family Name or Surname SIROTENKO						
Inventor's signature	Date						
Residence: Moscow, Russia							
ENGRADA PROPER SUSTIL							
Mailing Address: Grekova sir., bld. 1, sp. 22, Moscow, Russia							
NAME OF FOURTH INVENTOR:							
Given Name							
(first and middle [if any]) Kirill Arthurovich	Family Name or Surname GAVRILYUK						
Inventor's signature	That is						
rannon 2 sifamine	Date						
Residence: Moscow, Russia	Residence: Moscow, Russia						
Mailing							
Address: st. Kedrova, bld. 13, blk. 1, ap. 45, Moscow, Russia							
NAME OF FIFTH INVENTOR:							
Given Name (first and middle [if any]) Praveen	Show the Mining on Community CATA AND A						
Serve was austre in any) 8 28 veen	Family Name or Surname GULAKA						
Inventor's signature	Date						
Residence: Sywon-si, Republic of Korea							
Mailing							
Address: 518-501, 25, Yeongtong-ro 290beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea							

NAME OF SIXTH INVENTOR:	
Given Name (first and middle (if anyl) Sang-chem	Family Name or Sumame CHOI
inventor's signature Long Learn (Daic December 8, 2016
Residence: Seoul, Republic of Korea	
Mailing Address: #202, 32-7, Huam-ro, Yongsan-gu, Seou	I, Republic of Korea
NAME OF SEVENTH INVENTOR:	
Given Name (first and middle [if any]) Michail Nikolaevic	h Family Name or Surname RYCHAGOV
Inventor's signature	Date
Residence: Moscow, Russia	
Mailing Address: Panfilovsky pr., blk. 1145, ap. 96, Zelene	ograd, Moscow, Russia
NAME OF EIGHTH INVENTOR:	
Given Name (first and middle [if any]) Yang Lim	Family Name or Surname CHOI
hwentur's signature	Date
Residence: Seongnam-si, Republic of Korea	
	Seongnam-si, Gyeonggi-do, Republic of Korea

Docket No.: Q229770 SEC Ref: WR2013100021US0 Only After Sept 16, 2012

ASSIGNMENT WITH DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)

Whereas, I/We, the undersigned inventor(s) hereinafter called assignor(s), have invented certain improvements described in the application identified below; and

Whereas, <u>SAMSUNG ELECTRONICS CO., LTD.</u> of <u>129</u>, <u>Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677</u>, <u>Republic of Korea</u>, (assignee), desires to acquire the entire right, title, and interest in the application and invention, and to any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its successors and assigns, the entire right, title and interest in the application and the invention disclosed therein for the United States of America and all other countries, including all divisions, and continuations thereof, and all Letters Patent of the United States that may be granted thereon, and all reissues thereof, and including rights of priority under the International Convention of Paris (1883) as amended, the laws of all foreign countries, and the laws of the United States including the right to claim priority under 35 USC 119 and the right to sue for past damages, and I/we request the Director of the U.S. Patent and Trademark Office to issue any Letters Patent granted upon the invention set forth in the application to the assignee, its successors and assigns; and I/we hereby agree that the assignee may apply for foreign Letters Patent on the invention and I/we will execute without further consideration all papers deemed necessary by the assignee in connection with the United States and foreign applications when called upon to do so by the assignee.

(Legalization not required for recording	ng but	is prima facie evidence of execution under 35 USC 261)
As the below named inventor, I hereb	y decla	re that:
This assignment with declaration is directed to:		The attached application, or
in out to.	M	United States Application or PCT International Application Number <u>PCT/KR2015/004446</u> filed on April 30, 2015 (Confirmation No.).
The application is entitled:		

MAGNETIC RESONANCE IMAGING DEVICE AND METHOD FOR GENERATING MAGNETIC RESONANCE IMAGE

The above identified application was made or was authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the application for which this assignment with declaration is being submitted.

I am aware of the duty to disclose to the Office all information known to me to be material to patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this assignment with declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

NAME OF SOLE OR FIRST INVEN	ror:			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
Given Name						
(first and middle [if any])	Artem Sergeevich	Family Name or Surnar	me	MIGUKIN		
Inventor's signature			Date			
Residence: St.Petersburg, Russia						
Mailing Address: Novocherkassky pr	., bld. 10, ap. 54, St.Petersburg, F	tussia				
NAME OF SECOND INVENTOR:						
Given Name (first and middle [if any])	Dmitry Alexandrovich	Family Name or Surnar	ne	KOROBCHENKO		
Inventor's signature			Date			
Residence: Moscow, Russia						
Mailing Address: Lavochkina str., bl	d. 34, blk. 1, ap. 155, Moscow, Ri	USSIA	200000000000000000000000000000000000000	200001002000100100000000000000000000000		
NAME OF THIRD INVENTOR:						
Given Name (first and middle [if any])	Mikhail Yurievich	Family Name or Sumar	me	SIROTENKO		
Inventor's signature		***************************************	Date			
Residence: Moscow, Russia						
Mailing Address: Grekova str., bld. 1	, ap. 22, Moscow, Russia		***************************************			
NAME OF FOURTH INVENTOR:						
Given Name (first and middle [if any])	Kirill Arthurovich	Family Name or Surname	e (GAVRILYUK		
Inventor's signature			Date			
Residence: Moscow, Russia						
Mailing Address: st. Kedrova, bld. 13, blk. 1, ap. 45, Moscow, Russia						
NAME OF FIFTH INVENTOR:						
Given Name (first and middle [if any])	Praveen	Family Name or Surname	e (GULAKA		
Inventor's signature Date						
Residence: Suwon-si, Republic of Korea						
Mailing Address: 518-501, 25, Yeongtong-ro 290beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea						

[Page 2] PATENT REEL: 040706 FRAME: 0594

NAME OF SIXTH	INVENTOR:				
Given Name (first and middle [if	any])	Sang-cheon	Family Name or Surnar	ne	СНОІ
Inventor's signature	:			Date	
Residence:	Seoul, Republic of K	orea			
Mailing Address:	#202, 32-7, Huam-re	o, Yongsan-gu, Seoul, Republic of	Korea		
NAME OF SEVEN	TH INVENTOR:				
Given Name (first and middle [if	any])	Michail Nikolaevich	Family Name or Surnar	ne	RYCHAGOV
Inventor's signature				Date	
Residence:	Moscow, Russia				
Mailing Address:	Panfilovsky pr., blk.	1145, ap. 96, Zelenograd, Mosco	w, Russia		
NAME OF EIGHT	TH INVENTOR:				
Given Name (first and middle [if	any])	Yang Lim	Family Name or Sumar	ne	СНОІ
Inventor's signature	Cho			Date	December 8, 2016
Residence:	Seongnam-si, Repub	lic of Korea			
Mailing Address:	103-503, 184, Miger	um-ro, Bundang-gu, Seongnam-si	, Gyeonggi-do, Republic	of Kore	1

PATENT [Page 3] **REEL: 040706 FRAME: 0595**

RECORDED: 12/12/2016