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U.S.	DEPARTM	MENT OF	COMM	ERCE
United St	ates Paten	t and Tra	demark	Office

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To the Director of the U.S. Patent an	103601	006	ocuments or the new a	address(es) below.	
1. Name of conveying party(ies):	~	d address of receiving party	(ies)		
Sung-chul Lee (06/04/2010), Sun-Ae (06/04/2010), Young-Jin Cho (06/04/2010), Hwan Pi (06/04/2010), Kwang-seok (06/04/2010), and Ji-Young Bae (06/04/2010)	Name:	Samsung Electronics	s Co., Ltd.		
Additional name(s) of conveying party(ies) attached?	Yes X No	Internal Add			
3. Nature of conveyance/Execution Date(s	):	1			
Execution Date(s): in parentheses after inve	416 Maet	an-dong, Yeongtong-gu,			
Security Agreement Joint Researc	h Agreement	City:	City: Suwon-si		
Government Interest Assignment	State: Gyeonggi-do				
Executive Order 9424, Confirmatory Lice	Country: Republic of Korea Zip:				
Other		· -		Yes X No	
A. Patent Application No.(s)     This application     Additiona	I numbers attached?		es X No		
5. Name and address to whom corresponds concerning document should be mailed:		6. Total nur patents i	nber of applications and nvolved: 	1	
Name: John A. Castella HARNESS, DICKEY & PII	ERCE, P.L.C.	7. Total fee	(37 CFR 1.21(h) & 3.41) \$	40.00	
Internal Address: Atty. Dkt.: 2557SI-00140 Street Address: P.O. Box 8910	)2/US	X En	thorized to be charged to depo closed ne required (government inter		
City: Reston		8. Payment	Information		
State:         VA         Zip:           Phone Number:         (703) 668-8           Fax Number:         (703) 668-8           Email Address:         jcastellano@h	200		ccount Number zed User Name		
9. Signature:				22, 2010	
Sign John A. Castellan Name of Person S	ature 10 - 35,094 Signing	J	Total number of pages inclinated sheet, attachments, and do	oate uding cover 3 ocuments:	
			96/23/2018 SMOHAMME 000	00051 12801710	

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## ASSIGNMENT

WHEREAS, the undersigned, hereinafter referred to collectively as Assignor, has invented:

## OSCILLATORS AND METHODS OF OPERATING THE SAME

for which Assignor is about to make or has made United States or International application for patent

(a)	$\boxtimes$	executed on even date preparatory to filing (each inventor should sign this Assignment on the same day as he/she signs the Declaration and Power of Attorney);
(b)		executed on,; or
(c)		filed on, and assigned Serial No or PCT International Application No; and

WHEREAS, Samsung Electronics Co., Ltd., 416, Maetan-dong, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea, hereinafter referred to as Assignee, is desirous of acquiring all right, title, and interest therein:

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy whereof is hereby acknowledged, Assignor agrees to, and hereby does, sell, assign and transfer unto Assignee and its successors in interest, the full and exclusive right, title and interest in the United States of America and throughout the world, including the right to claim priority under the laws of the United States, the Paris Convention, and any foreign countries, to the invention as described in the aforesaid application and all United States Letters Patent which may be granted therefore, and all divisions, continuations, reissues, reexaminations and extensions thereof, these rights, title and interest to be held and enjoyed by Assignee to the full end of the term for which the Letters Patent are granted and any extensions thereof as fully and entirely as the same would have been held by Assignor had this assignment and sale not been made, and the right to sue for, and recover for past infringements of, or liabilities for, any of the rights relating to any of the applications or patents resulting therefrom;

Assignor hereby covenants and agrees to execute all instruments or documents required or requested for the making and prosecution of any applications of any type for patent in the United States and in all foreign countries including, but not limited to, any provisional, continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to letters patent any reissue, re-examination, or extension thereof, and for litigation regarding, or for the purpose of protecting title and to the said invention, the United States application for patent, or Letters Patent therefor, and to testify in support thereof, for the benefit of Assignee without further or other compensation than that above set forth;

Assignor hereby covenants that no assignment, sale, license, agreement or encumbrance has been or will be entered into which would conflict with this Assignment; and

Assignor hereby requests the United States Patent and Trademark Office to issue the Letters Patent of the United States of America to Assignee, and requests that any official of any country or countries foreign to the United States, whose duty it is to issue or grant patents and applications as aforesaid, to issue the Letters Patent, Utility Model Registration or Inventor's Certificate to Assignee.

The undersigned hereby grant(s) the law firm of Harness, Dickey & Pierce, P.L.C. 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 U.S. Patent and Trademark Office for recordation of this document.

Page 1 of 2

PATENT REEL: 024639 FRAME: 0472

## **ASSIGNMENT**

SCLEC
Sung-chul LEE
4 June 2010
Dated
Reno
Sun-ae SEÒ
4 June 2010
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422
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Krin twang Sook
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Ji-young BAE
4 June 2010
Dated

Page 2 of 2