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Atty. Docket No. 2557-001004/US/0 Page 1 of

/ Horanda J. V. Sapi Y	06-17-2	2009		
RI			неет	
To the F Please re	103564		Frademarks: copy thereof.	
1. Name of conveying party(ies):		2. Name and a	ddress of receiving	party(ies)
In-sung JOE Kyoung-ho HA		Name: SA	MSUNG ELECT	TRONICS CO., LTD.
Ju-hwan YI		Street Addre	ess: 416 Maetan-	dong, Yeongtong-gu
Yoon-dong PARK		City: Suwo	n-si	State: Gyeonggi-do
Additional name(s) of conveying party(ies) at YES NO	ttached?	·	epublic of Korea	, 55
3. Nature of conveyance:				
Assignment		Additional name(s) & address(es) attached? YES NO		
Execution Date(s): 6/5/2009, 6/5/2009, 6/6/5/2009				
 Application number(s) or patent number(s) If this document is being filed together with A. Patent Application No(s). 		the execution da		on is: 6/5/2009, 6/5/2009, 6/5/2009, 6/5/2009
	tional numbers attach		№ NO	
Name and address of party to whom corre concerning document should be mailed:	spondence		applications/paten7 C.F.R. § 3.41):	ts involved: One (1) \$40.00
Name: HARNESS, DICKEY & PIERCE,	P.L.C.	Enclosed	<u></u>	-
Street Address: P.O. BOX 8910 City: RESTON State: VA ZIP: 20195	5	Authorized if no fee at	to be charged to detached	eposit account,
Country: USA			ount number: 08-0	750
			Attach triplicate co	
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9. Statement and signature. To the best of my knowledge and be copy of the original document. John A. Castellano, #35,094 Name of Person Signing/Reg. No.			and correct and a	ny attached copy is a true June 5, 2009 Date
Total number of p	pages including cover	sheet, attachme	nts, and document:	3
		86	/08/2009 JADDO1 (80000026 124\$7269 JAC/Ip

PATENT

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REEL: 022840 FRAME: 0581

ASSIGNMENT

Atty. Docket No. 2557-001004/US/01

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

SEMICONDUCTOR APPARATUSES HAVING OPTICAL CONNECTIONS BETWEEN MEMORY CONTROLLER AND MEMORY MODULE

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.

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ASSIGNMENT

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