

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT4286336

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
DONGBU HITEK, CO., LTD.	10/08/2014
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	INPHI CORPORATION
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<b>City:</b>	Santa Clara
<b>State/Country:</b>	CALIFORNIA
<b>Postal Code:</b>	95054
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
Patent Number:	7989908
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<b>SIGNATURE:</b>	/Steve Y. Cho/
<b>DATE SIGNED:</b>	02/22/2017
<b>Total Attachments: 12</b>	
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## Exhibit B

### Assignment of Patent Rights

For good and valuable consideration, the receipt of which is hereby acknowledged, Dongbu HiTek Co., Ltd., Dongbu Electronics Co., Ltd, and Dongbuanam Semiconductor Inc. ("**Assignor**") does hereby sell, assign, transfer and convey unto Inphi Corporation ("**Assignee**") or its designees, all of Assignor's right, title and interest in and to the following (collectively "**Patent Rights**"): (a) the patent applications and patents listed below; all reissues, reexaminations, extensions, continuations, continuations in part, continuing prosecution applications, and divisions of such patents and applications; provisional patent applications that are or shall be continuations or continuations in part of such patents and applications; and foreign counterparts to any such patents and applications, including, without limitation, certificates of invention, utility models, or other governmental grants; (b) the rights to all inventions and discoveries described in such patents and applications; (c) all rights to apply in any or all countries (or patent treaties, conventions or other agreements) throughout the world for patents, certificates of invention, utility models, or other governmental grants related to the any of the foregoing categories (a) and (b); and (d) all right, title and interest in and to all causes of action (whether currently pending, filed, or otherwise) and other enforcement rights, including, without limitation, all rights under the patents and applications listed below and/or under or on account of any of the foregoing categories (b) and/or (c) to (i) damages, (ii) injunctive relief, and (iii) other remedies of any kind for past, current and future infringement; and (e) all rights to collect royalties and other payments under or on account of any of the foregoing.:

#### Patent Rights To Be Assigned

No.	U.S. Patent No.	Issue Date	Title
1	6734058	5/11/2004	Method for fabricating a semiconductor device
2	7944001	5/17/2011	Power mosfet including inter-source connection pattern
3	8030705	10/4/2011	Semiconductor device and method of fabricating the same
4	8022476	9/20/2011	Semiconductor device having vertical and horizontal type gates and method for fabricating the same
5	8028261	9/27/2011	Method of predicting substrate current in high voltage device
6	8173500	5/8/2012	Poly-emitter type bipolar junction transistor, bipolar CMOS DMOS device, and manufacturing methods of poly-emitter type bipolar junction transistor and bipolar CMOS DMOS device
7	8099842	1/24/2012	Method of manufacturing a piezoelectric transistor

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8	7223953	5/29/2007	Image sensor and method of manufacturing the same
9	7244632	7/17/2007	Complementary metal oxide semiconductor image sensor and method for fabricating the same
10	7223625	5/29/2007	CMOS image sensor and method for fabricating the same
11	7538374	5/26/2009	CMOS image sensor and method for fabricating the same
12	7315359	1/1/2008	Method for monitoring micro-lens curvature in-line
13	7449359	11/11/2008	Fabricating method of CMOS image sensor
14	7294522	11/13/2007	CMOS image sensor and method for fabricating the same
15	7405437	7/29/2008	CMOS image sensor and method for fabricating the same
16	7413944	8/19/2008	CMOS image sensor and method of manufacturing the same
17	7935551	5/3/2011	Image sensor and method for manufacturing the same
18	7989908	8/2/2011	Image sensor and method for manufacturing the same
19	8222068	7/17/2012	Method for manufacturing image sensor
20	8004027	8/23/2011	Image sensor and manufacturing method thereof
21	7999292	8/16/2011	Image sensor and manufacturing method thereof
22	8044478	10/25/2011	Image sensor comprising a photodiode in a crystalline semiconductor layer and manufacturing method thereof
23	8030653	10/4/2011	Image sensor and method for manufacturing the same
24	7956434	6/7/2011	Image sensor and method for manufacturing the same
25	8089106	1/3/2012	Image sensor and method for manufacturing the same
26	7989860	8/2/2011	Image sensor and method for manufacturing the same
27	8178912	5/15/2012	Image sensor for minimizing a dark current and method for manufacturing the same
28	8120080	2/21/2012	Image sensor and manufacturing method of image sensor
<del>29</del>	<del>8278209</del>	<del>10/2/2012</del>	<del>Method for manufacturing a semiconductor device using a</del>

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			<del>hardmask layer</del>
30	8237833	8/7/2012	Image sensor and method for manufacturing the same
31	8169044	5/1/2012	Image sensor and method for manufacturing the same
32	8222711	7/17/2012	Image sensor and method for manufacturing the same
33	8154095	4/10/2012	Image sensor and method for manufacturing the same
34	6759287	7/6/2004	Semiconductor device and fabrication method thereof
35	6841471	1/11/2005	Fabrication method of semiconductor device
36	6830997	12/14/2004	Semiconductor devices and methods for forming semiconductor devices
37	6800553	10/5/2004	Method for manufacturing a silicide layer of semiconductor device
38	6790767	9/14/2004	Method for formation of copper diffusion barrier film using aluminum
39	6765263	7/20/2004	Semiconductor device and method for fabricating the same
40	6833232	12/21/2004	Micro-pattern forming method for semiconductor device
41	6743665	6/1/2004	Method for forming isolation layer in semiconductor device
42	6689664	2/10/2004	Transistor fabrication method
43	6716735	4/6/2004	Method for forming metal lines of semiconductor device
44	6803308	10/12/2004	Method of forming a dual damascene pattern in a semiconductor device
45	7459394	12/2/2008	Methods of manufacturing semiconductor devices
46	7217602	5/15/2007	Semiconductor device employing SOI substrate and method of manufacturing the same
47	7259087	8/21/2007	Semiconductor devices having a via hole and methods for forming a via hole in a semiconductor device
48	7348247	3/25/2008	Semiconductor devices and methods of manufacturing the same

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49	7229894	6/12/2007	Active cell isolation body of a semiconductor device and method for forming the same
50	7192869	3/20/2007	Methods for planarizing a metal layer
51	7186644	3/6/2007	Methods for preventing copper oxidation in a dual damascene process
52	7217633	5/15/2007	Methods for fabricating an STI film of a semiconductor device
53	7371656	5/13/2008	Method for forming STI of semiconductor device
54	7273792	9/25/2007	Semiconductor device and fabricating method thereof
55	7208384	4/24/2007	Transistors and manufacturing methods thereof
56	7446377	11/4/2008	Transistors and manufacturing methods thereof
57	7312122	12/25/2007	Self-aligned element isolation film structure in a flash cell and forming method thereof
58	7303988	12/4/2007	Methods of manufacturing multi-level metal lines in semiconductor devices
59	7259092	8/21/2007	Semiconductor device and method for fabricating the same
60	7259053	8/21/2007	Methods for forming a device isolation structure in a semiconductor device
61	7238573	7/3/2007	Method for fabricating a trench transistor of semiconductor device
62	7211495	5/1/2007	Semiconductor devices having a capacitor and methods of manufacturing the same
63	7186641	3/6/2007	Methods of forming metal interconnection lines in semiconductor devices
64	7235450	6/26/2007	Methods for fabricating semiconductor devices
65	7312132	12/25/2007	Field insulator FET device and fabrication method thereof
66	7538393	5/26/2009	Field insulator FET device and fabrication method thereof
67	7393778	7/1/2008	Semiconductor device and method for fabricating the same
68	7326632	2/5/2008	Method for fabricating metal wirings of semiconductor device

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69	7399669	7/15/2008	Semiconductor devices and methods for fabricating the same including forming an amorphous region in an interface between a device isolation layer and a source/drain diffusion layer
70	7341940	3/11/2008	Method for forming metal wirings of semiconductor device
71	7211491	5/1/2007	Method of fabricating gate electrode of semiconductor device
72	7238606	7/3/2007	Semiconductor devices and method for fabricating the same
73	7247565	7/24/2007	Methods for fabricating a copper interconnect
74	7241684	7/10/2007	Method of forming metal wiring of semiconductor device
75	7276439	10/2/2007	Method for forming contact hole for dual damascene interconnection in semiconductor device
76	7482256	1/27/2009	Semiconductor device and method of manufacturing the same
77	7229925	6/12/2007	Methods of forming a pattern for a semiconductor device
78	7332421	2/19/2008	Method of fabricating gate electrode of semiconductor device
79	7365020	4/29/2008	Method for etching upper metal of capacitor
80	7348243	3/25/2008	Semiconductor device and method for fabricating the same
81	7259105	8/21/2007	Methods of fabricating gate spacers for semiconductor devices
82	7253039	8/7/2007	Method of manufacturing CMOS transistor by using SOI substrate
83	7361562	4/22/2008	Method of manufacturing semiconductor device
84	7223663	5/29/2007	MOS transistors and methods of manufacturing the same
85	7223686	5/29/2007	Semiconductor interconnection line and method of forming the same
86	7960839	6/14/2011	Semiconductor interconnection line and method of forming the same
87	7402484	7/22/2008	Methods for forming a field effect transistor
88	7271087	9/18/2007	Dual damascene interconnection in semiconductor device and method for forming the same
89	7232746	6/19/2007	Method for forming dual damascene interconnection in

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			semiconductor device
90	7371665	5/13/2008	Method for fabricating shallow trench isolation layer of semiconductor device
91	7521311	4/21/2009	Semiconductor device and method for fabricating the same
92	7335564	2/26/2008	Method for forming device isolation layer of semiconductor device
93	7306989	12/11/2007	Fabricating method of semiconductor device
94	7432203	10/7/2008	Methods for fabricating a metal layer pattern
95	7300862	11/27/2007	Method for manufacturing semiconductor device
96	7300866	11/27/2007	Method for fabricating metal line in a semiconductor
97	7271078	9/18/2007	Method for fabricating semiconductor device and semiconductor device using the same
98	7517799	4/14/2009	Method for forming a plurality of metal lines in a semiconductor device using dual insulating layer
99	7419847	9/2/2008	Method for forming metal interconnection of semiconductor device
100	7371655	5/13/2008	Method of fabricating low-power CMOS device
101	7358574	4/15/2008	Semiconductor device having silicide-blocking layer and fabrication method thereof
102	7977770	7/12/2011	Semiconductor device and method of manufacturing the same
103	7402486	7/22/2008	Cylinder-type capacitor and storage device, and method(s) for fabricating the same
104	7211859	5/1/2007	Semiconductor device and manufacturing method thereof
105	7426073	9/16/2008	Digital micromirror device and manufacturing method thereof
106	7550349	6/23/2009	Method for forming gate dielectric layers
107	7419899	9/2/2008	Method for manufacturing semiconductor device
108	7361597	4/22/2008	Semiconductor device and method of fabricating the same
109	7361580	4/22/2008	Semiconductor device and manufacturing method thereof

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110	7544601	6/9/2009	Semiconductor device and a method for manufacturing the same
111	7482262	1/27/2009	Method of manufacturing semiconductor device
112	7425494	9/16/2008	Method for forming void-free trench isolation layer
113	8174121	5/8/2012	Semiconductor device and manufacturing method thereof
114	7396727	7/8/2008	Transistor of semiconductor device and method for fabricating the same
115	7432193	10/7/2008	Method for fabricating a thin film and a metal line of a semiconductor device
116	7439175	10/21/2008	Method for fabricating a thin film and metal line of semiconductor device
117	7498262	3/3/2009	Method of fabricating a thin film and metal wiring in a semiconductor device
118	7429518	9/30/2008	Method for forming shallow trench isolation of semiconductor device
119	7427546	9/23/2008	Transistor device and method for manufacturing the same
120	7531901	5/12/2009	Metal interconnection of semiconductor device and method for forming the same
121	7906399	3/15/2011	Narrow width metal oxide semiconductor transistor
122	7528455	5/5/2009	Narrow width metal oxide semiconductor transistor
123	7943448	5/17/2011	Semiconductor device and method of manufacturing the same
124	7452806	11/18/2008	Method of forming inductor in semiconductor device
125	7482691	1/27/2009	Semiconductor device and method for fabricating the same
126	7981762	7/19/2011	Method of forming pre-metal dielectric layer of semiconductor device
127	7951713	5/31/2011	Method of forming metal wiring in semiconductor device
128	7977792	7/12/2011	Semiconductor device
129	8026167	9/27/2011	Semiconductor device and method of manufacturing the same
130	8076729	12/13/2011	Semiconductor device having a dual gate electrode and

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			methods of making the same
131	8074188	12/6/2011	Method for designing mask including forming a mesh dummy pattern
132	7968408	6/28/2011	MIM capacitor and method of fabricating the same
133	7902669	3/8/2011	Semiconductor device and method for manufacturing the same
134	7994591	8/9/2011	Semiconductor device and method for manufacturing the same
135	8030149	10/4/2011	Method for manufacturing semiconductor device
136	7919375	4/5/2011	Semiconductor device and method for manufacturing the device
137	8097540	1/17/2012	Method of opening pad in semiconductor device
138	7994414	8/9/2011	Semiconductor device
139	7973374	7/5/2011	Semiconductor device and method for fabricating the same
140	8084317	12/27/2011	Semiconductor device and method of manufacturing the same
141	8248098	8/21/2012	Apparatus and method for measuring characteristics of semiconductor device
142	8039355	10/18/2011	Method for fabricating PIP capacitor
143	7923324	4/12/2011	Method for manufacturing capacitor of semiconductor device
144	8067311	11/29/2011	Mask and method for fabricating semiconductor device using the same
145	8048730	11/1/2011	Semiconductor device and method for manufacturing the same
146	8071971	12/6/2011	Semiconductor device including air gap
147	8048799	11/1/2011	Method for forming copper wiring in semiconductor device
148	7994018	8/9/2011	Method for fabricating semiconductor device
149	6709925	3/23/2004	Split-gate flash memory cell and manufacturing method thereof
150	7307024	12/11/2007	Flash memory and fabrication method thereof
151	6870214	3/22/2005	Method of fabricating flash EEPROM

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152	6709933	3/23/2004	Method of fabricating mask ROM
153	6806150	10/19/2004	Methods of manufacturing semiconductor memory devices with epitaxial contact nodes
154	7473601	1/6/2009	Method of fabricating flash memory device using sidewall process
155	7244679	7/17/2007	Methods of forming silicon quantum dots and methods of fabricating semiconductor memory devices using the same
156	7374989	5/20/2008	Flash memory and methods of fabricating the same
157	7368345	5/6/2008	Flash memory devices and methods of fabricating the same
158	7338858	3/4/2008	Methods of fabricating nonvolatile memory using a quantum dot
159	7214586	5/8/2007	Methods of fabricating nonvolatile memory device
160	7217620	5/15/2007	Methods of forming silicon quantum dots and methods of fabricating semiconductor memory device using the same
161	7259074	8/21/2007	Trench isolation method in flash memory device
162	7279381	10/9/2007	Method for fabricating cell transistor of flash memory
163	7366026	4/29/2008	Flash memory device and method for fabricating the same, and programming and erasing method thereof
164	7282758	10/16/2007	Method of fabricating a floating gate for a nonvolatile memory
165	7470592	12/30/2008	Method of manufacturing a SONOS device
166	7488634	2/10/2009	Method for fabricating flash memory device
167	7553719	6/30/2009	Flash memory device and method for fabricating the same
168	7488649	2/10/2009	Method of manufacturing split gate type non-volatile memory device
169	7948022	5/24/2011	Flash memory device and method for manufacturing the same
170	7507625	3/24/2009	Flash memory device and method for manufacturing the same
171	7537992	5/26/2009	Method for manufacturing flash memory device
172	7262097	8/28/2007	Method for forming floating gate in flash memory device

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173	7435647	10/14/2008	NOR-type flash memory device and manufacturing method thereof
174	7211498	5/1/2007	Method of manufacturing an isolation layer of a flash memory
175	7396723	7/8/2008	Method of manufacturing EEPROM device
176	7413953	8/19/2008	Method of forming floating gate array of flash memory device
177	7553721	6/30/2009	Flash memory devices and methods of fabricating the same
178	7923768	4/12/2011	Semiconductor device with non-volatile memory function and method of manufacturing the same
179	7919370	4/5/2011	Flash device and the manufacturing method
180	7972929	7/5/2011	Method for manufacturing semiconductor device
181	7965576	6/21/2011	Apparatus for testing memory device
182	7985670	7/26/2011	Method of forming U-shaped floating gate with a poly meta-stable polysilicon layer
183	7972896	7/5/2011	Multi-bit memory cell structure and method of manufacturing the same
184	7952120	5/31/2011	Semiconductor device
185	8138044	3/20/2012	Method for manufacturing semiconductor flash memory and flash memory cell
186	8169828	5/1/2012	Semiconductor memory cell, method for manufacturing the same and method for operating the same
187	8216900	7/10/2012	Nonvolatile memory device, method of manufacturing the nonvolatile memory device, and method of manufacturing flat panel display device provided with the nonvolatile memory device
188	8076201	12/13/2011	Method of manufacturing flash memory device
189	7943495	5/17/2011	Method of manufacturing semiconductor device
190	8003531	8/23/2011	Method for manufacturing flash memory device
191	8236649	8/7/2012	Semiconductor memory device with spacer shape floating gate and manufacturing method of the semiconductor memory device

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192	6689637	2/10/2004	Method of manufacturing a multi-chip semiconductor package
193	8168526	5/1/2012	Semiconductor chip package and method for manufacturing thereof
194	7683667	3/23/2010	Level shifter having a single voltage source and capable of shifting between wide difference of voltage levels
195	7855407	12/21/2010	CMOS image sensor and method for manufacturing the same
196	7626157	12/1/2009	Image sensor including microlens having sizes differing according to deposition of color filter array
197	7453110	11/18/2008	CMOS image sensor and method for manufacturing the same
198	7397076	7/8/2008	CMOS image sensor with dark current reduction
199	7154143	12/26/2006	Non-volatile memory devices and methods of fabricating the same
200	6977201	12/20/2005	Method for fabricating flash memory device

Assignor hereby authorizes the respective patent office or governmental agency in each jurisdiction to issue any and all patents or certificates of invention which may be granted upon any of the Patent Rights in the name of Assignee, as the assignee to the entire interest therein.

The terms and conditions of this Assignment shall inure to the benefit of Assignee, its successors, assigns and other legal representatives, and shall be binding upon Assignor, its successor, assigns and other legal representatives.

IN WITNESS WHEREOF this Assignment of Patent Rights is executed on October 9th,

2014

ASSIGNOR

By: K. S. Kim

Name: Kwangsoo, Kim

Title: Sp. Manager

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**AFFIDAVIT OF AUTHORITY TO SIGN FOR A COMPANY**

We, Dongbu HiTek, Co., Ltd., previously known as Dongbu Electronics Co., Ltd, and previously known as DongbuAnam Semiconductor Inc., with offices at 90 Soodo-ro Wonmi-gu, Bucheon-si, Gyeonggi-do, KOREA (collectively "**DONGBU**"), certify that Mr. Kwangsoo Kim, a Senior Manager of Dongbu HiTek, Co., Ltd., has the authority to execute on behalf of DONGBU the Patent Purchase Agreement including the Assignment of Patent Rights executed on October 7<sup>th</sup>, 2014 between DONGBU and INPHI Corporation, which is attached as Appendix A of this affidavit.

We, Dongbu HiTek, Co., Ltd., hereby represent that; DongbuAnam Semiconductor Inc. had changed its name to Dongbu Electronics Co., Ltd in 2006, and renamed the company name to Dongbu HiTek, Co., Ltd. in 2007, and any and all rights, title, and interest in and to the patents and patent applications listed in the Assignment of Patent Rights including any and all corresponding foreign counterparts owned, held, controlled and/or enjoyed by any and all previous entities of Dongbu HiTek, Co., Ltd. including but not limited to Dongbu Electronics Co., Ltd, and DongbuAnam Semiconductor Inc., were transferred to Dongbu HiTek, Co., Ltd.. The documentary evidences showing the name changes of DONGBU are attached hereto as Appendix B.

IN TESTIMONY WHEREOF, Dongbu HiTek, Co., Ltd. has signed this Affidavits on the date indicated.

October 10, 2014

Chang-Sik Choi,  
CEO of Dongbu HiTek, Co., Ltd.



I, Kwangsoo Kim, declare under the penalty of perjury that I am a Senior Manager of Dongbu HiTek, Co., Ltd., a Korean company, with offices at 90 Soodo-ro Wonmi-gu, Bucheon-si, Gyeonggi-do, KOREA, and I am authorized to execute on behalf of DONGBU the Patent Purchase Agreement including the Assignment of Patent Rights executed on October 7th, 2014 between DONGBU and INPHI Corporation, which is attached as Appendix A of this affidavit.

October 10, 2014  
Date:

K. S. Kim  
Name: Kwangsoo, Kim  
Title: Sr. Manager