

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT5838304

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT
CONVEYING PARTY DATA	
Name	Execution Date
WON-JOON CHOI	06/03/2016
KI-SEON PARK	06/03/2016
CHA-DEOK DONG	06/03/2016
BO-MI LEE	06/03/2016
GUK-CHEON KIM	06/03/2016
SEUNG-MO NOH	06/03/2016
MIN-SUK LEE	06/03/2016
CHAN-SIK PARK	06/03/2016
JAE-HEON KIM	06/03/2016
CHOI-DONG KIM	06/03/2016
JAE-HONG KIM	06/03/2016
YANG-KON KIM	06/03/2016
JONG-KOO LIM	06/03/2016
RECEIVING PARTY DATA	
Name:	SK HYNIX INC.
Street Address:	2091, GYEONGCHUNG-DAERO
Internal Address:	BUBAL-EUB, GYEONGGI-DO
City:	ICHEON-SI
State/Country:	KOREA, REPUBLIC OF
PROPERTY NUMBERS Total: 1	
Property Type	Number
Application Number:	16694844
CORRESPONDENCE DATA	
Fax Number:	
<i>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.</i>	
Email:	mbright@perkinscoie.com
Correspondent Name:	BABAK TEHRANCHI
Address Line 1:	PERKINS COIE LLP
Address Line 2:	PO BOX 1247

PATENT

Address Line 4: SEATTLE, WASHINGTON 98111-1247

ATTORNEY DOCKET NUMBER: 088453-8085.US01

NAME OF SUBMITTER: MEGHAN BRIGHT

SIGNATURE: /Meghan Bright/

DATE SIGNED: 11/25/2019

This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 39

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Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Won-Joon Choi, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark 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 the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

130932632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

I authorize and request an attorney appointed in said application to hereafter insert above the filing date and application number of said application when known.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

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I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Won-Joon Choi

Inventor's signature: Won-Joon Choi

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

PATENT
REEL: 051113 FRAME: 0005

Docket No.: 088453-8085.US00
(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Ki-Seon Park, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

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

ASSIGNMENT

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

I authorize and request an attorney appointed in said application to hereafter insert above the filing date and application number of said application when known.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
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Docket No.: 088453-8085.US00

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I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Ki-Seon Park

Inventor's signature: Ki-Seon Park

Date: June 03, 2016

Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Cha-Deok Dong, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

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ASSIGNMENT

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Inventor : Won-Joon Choi et al.
Appl No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
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I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Cha-Deok Dong

Inventor's signature: Cha-Deok Dong

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Bo-Mi Lee, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

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ASSIGNMENT

330922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
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Page : 2 of 3

Docket No.: 088453-8085.US00

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Full name of inventor: Bo-Mi Lee

Inventor's signature: Bo-Mi Lee

Date: June 03, 2016

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Docket No.: 088453-8085.US00
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Commissioner for Patents
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Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Guk-Cheon Kim, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

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ASSIGNMENT

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
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I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Buhal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

I authorize and request an attorney appointed in said application to hereafter insert above the filing date and application number of said application when known.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

The foregoing assignments, sale and transfer have been made for good and valuable consideration, the receipt of which is hereby acknowledged.

I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Guk-Cheon Kim

Inventor's signature: Guk-Cheon Kim

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Seung-Mo Nah, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed
invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-
8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent
application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application
including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark 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 the above declaration is
punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Harewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchang-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

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170922832.1

The foregoing assignments, sale and transfer have been made for good and valuable consideration, the receipt of which is hereby acknowledged.

I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

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I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Seung-Mo Noh

Inventor's signature: Seung-Mo Noh

Date: June 03, 2016

Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (855) 720-5700
Facsimile: (206) 359-7198

Docket No.: 088453-8085,US00
(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Min-Suk Lee, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085,US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

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ASSIGNMENT

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

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I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Min-Suk Lee

Inventor's signature: Minsuk Lee

Date: June 03, 2016

Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

Docket No.: 088453-8085.US00
(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Chan-Sik Park, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark 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 the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

130922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

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130922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

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I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Chan-Sik Park

Inventor's signature: 

Date: June 03, 2016

Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

SK hynix

박찬식/Yellow장비구매

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PATENT

REEL: 051113 FRAME: 0026

Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Jae-Heon Kim, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark 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 the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

330922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

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130922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

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I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Jae-Heon Kim

Inventor's signature: 

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

Docket No.: 088453-8085.US00
(PATENT)
SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Choi-Dong Kim, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

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ASSIGNMENT

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

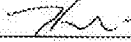
I hereby represent and covenant that no assignment, sale, agreement or encumbrance has been or will be made or entered into that would conflict with the assignment of said inventions and improvements to the Assignee.

I further covenant for myself and my respective heirs, legal representatives and assigns, to assist the Assignee in handling various procedures, tasks and documentation in connection with this assignment, including, but not limited to, providing to the Assignee promptly upon the request of the Assignee all pertinent facts and documents relating to said invention and improvements, and said patents, said legal equivalents or other legal instrument as may be known and accessible to me and testifying as to the same in any interference, litigation, or proceeding relating thereto, and promptly executing and delivering to the Assignee or its legal representative any and all papers, documents, instruments or affidavits in connection with obtaining, maintaining, issuing or enforcing said application, said inventions and improvements, and said patents, said equivalents and other legal instrument which may be necessary or desirable to carry out the purposes thereof.

I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Choi-Dong Kim

Inventor's signature: 

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG : IVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Jae-Hong Kim, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

I have reviewed and understand the contents of the above-identified patent application including the claims.

I am aware of the duty to disclose to the U.S. Patent and Trademark 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 the above declaration is punishable under 18 USC §1001 by fine or imprisonment of not more than five (5) years, or both.

ASSIGNMENT

130922532.1

Inventor : Won-Joon Choi et al.
App'l. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix Inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683,

I authorize and request an attorney appointed in said application to hereafter insert above the filing date and application number of said application when known.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

In addition, I hereby confirm the sale, assignment, and transfer to the Assignee of the entire right, title and interest throughout the world in said inventions and improvements that occurred by operation of an employment agreement between me and the Assignee existing at the time said inventions and improvements were made. Should I have any remaining interest, I hereby sell, assign, and transfer any right, title and interest I may have in said inventions and improvements anywhere in the world to the Assignee.

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

The foregoing assignments, sale and transfer have been made for good and valuable consideration, the receipt of which is hereby acknowledged.

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I hereby authorize and request the Commissioner of Patents and Trademarks to issue one or more patents in the United States for said inventions and improvements to SK hynix Inc. as assignee of the entire interest, for the sole use and benefit of Assignee, its successors and assigns.

I am competent to execute the above declaration and assignment. I hereby have duly executed the declaration and assignment below with my name.

Full name of inventor: Jae-Hong Kim

Inventor's signature: Kim Jae Hong

Date: June 03, 2016

Perkins Coie LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

130922632.1

Docket No.: 088453-8085.US00

(PATENT)

SHINSUNG: IVX000132829(P16110047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

I, Yang-Kon Kim, hereby declare that:

I believe I am the sole original inventor or an original joint inventor of a claimed invention in a patent application entitled:

ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME

the specification of which is attached hereto and identified as Attorney Docket No. 088453-8085.US00.

I made, authorized to make, or will make or authorize to make the above-identified patent application at the U.S. Patent and Trademark Office.

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

ASSIGNMENT

430922632.1

Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 2 of 3

Docket No.: 088453-8085.US00

I hereby assign to SK hynix inc., a corporation of Korea, having a place of business at 2091, Gyeongchung-daero, Bubal-eub, Icheon-si, Gyeonggi-do, Korea, and its successors and assigns (collectively hereinafter called "the Assignee"), the entire right, title and interest throughout the world in any and all inventions and improvements which are described in an application for United States Patent filed by me, entitled *ELECTRONIC DEVICE AND METHOD FOR FABRICATING THE SAME*, filed on November 16, 2016, and assigned U.S. Application Number 15/353,683.

I authorize and request an attorney appointed in said application to hereafter insert above the filing date and application number of said application when known.

This assignment includes the entire right, title and interest in said application, all legal equivalents thereof in any country, any and all United States and foreign patents, utility models, and design registrations granted for any of said inventions and improvements, including, but not limited to, all divisions, continuations, reissues, reexamination certificates, any and all certificates issued in any post-grant proceeding, and extensions of said applications and patents of the United States, foreign patents, utility models, and design registrations, and the right to claim priority based on the filing date of said application under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes, and the right to seek relief and recover all damages, including, but not limited to, a reasonable royalty, by reason of infringement or any other violation of patent or patent application rights. I authorize the Assignee to apply in all countries in my name or in the name of the Assignee for patents, utility models, design registrations and like rights of exclusion and for inventors' certificates for said inventions and improvements.

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
Filed : Herewith
Page : 3 of 3

Docket No.: 088453-8085.US00

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Full name of inventor: Yang-Kon Kim

Inventor's signature: Yang-Kon Kim

Date: June 03, 2016

Perkins Cole LLP
P.O. Box 1247
Seattle, Washington 98111-1247
Telephone: (858) 720-5700
Facsimile: (206) 359-7198

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SKhynix

김양곤/STT-BRAM 공평

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PATENT

REEL: 051113 FRAME: 0038

Docket No.: 088453-8085.US00
(PATENT)

SHINSUNG : JVX000132829(P16H0047C/US)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Won-Joon Choi et al.

Application No.: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Filed: Herewith

For: ELECTRONIC DEVICE AND METHOD FOR
FABRICATING THE SAME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION AND ASSIGNMENT BY THE INVENTOR
UNDER RULE 37 C.F.R. § 1.63 EFFECTIVE ON SEPTEMBER 16, 2012

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Inventor : Won-Joon Choi et al.
Appl. No. : Not Yet Assigned
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Docket No.: 088453-8085.US00

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Inventor : Wen-Joon Choi et al.
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Inventor's signature: 

Date: June 03, 2016

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Telephone: (858) 720-5700
Facsimile: (206) 359-7198

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SKhynix

원종규/STT-MRAM 공명

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PATENT

RECORDED: 11/25/2019

REEL: 051113 FRAME: 0041