## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3917629

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
AMAN BHATIA	05/23/2016
NAVEEN KUMAR	05/23/2016
YI-MIN LIN	05/23/2016
LINGQI ZENG	05/25/2016

#### **RECEIVING PARTY DATA**

Name:	SK HYNIX MEMORY SOLUTIONS INC.	
Street Address:	3103 NORTH FIRST STREET	
City:	SAN JOSE	
State/Country:	CALIFORNIA	
Postal Code:	95134	

#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	15158416

#### **CORRESPONDENCE DATA**

**Fax Number:** (571)327-5452

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:** 571-327-5450

Email: ipntlaw@ipntlaw.com
Correspondent Name: IP & T GROUP LLP

Address Line 1: 8230 LEESBURG PIKE SUITE 650

Address Line 4: VIENNA, VIRGINIA 22182

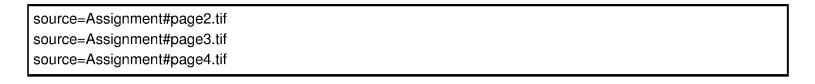
ATTORNEY DOCKET NUMBER:	SKHYP094	
NAME OF SUBMITTER:	MYUNG SOO KIM	
SIGNATURE:	/Myung Soo KIM/	
DATE SIGNED:	06/14/2016	
	This document serves as an Oath/Declaration (37 CFR 1.63).	

**Total Attachments: 4** 

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PATENT REEL: 038912 FRAME: 0044

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PATENT REEL: 038912 FRAME: 0045

### ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS Aman BHATIA , hereinafter referred to collectively as the assignor and
inventor, has invented a certain improvement relating to
PERFORMANCE OPTIMIZATION IN SOFT DECODING FOR TURBO PRODUCT CODES ,
[ ] said application being attached hereto; [X] said application having been filed in the United States Patent and Trademark Office on
AND WHEREAS SK Hynix Memory Solutions Inc.  hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;
NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.  AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's
successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.
As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both,
ASSIGNOR (INVENTOR):
Signature: Nav. But C - Date: 05/23/2016
Printed or Typed Name: Aman BHATIA

SKhynix

1 Yi Min Lin/Advanced IP Development S 6505**PATEN.T**I. 160/2016-05-23 15:0

REEL: 038912 FRAME: 0046

# ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS	Naveen KUMAR	, hereinafter referred to collectively as the assignor and
inventor, has invented a	certain improvement relating to	
PERFORMANCE OF	PTIMIZATION IN SOFT DECO	DING FOR TURBO PRODUCT CODES .
May 18, 2016, as Apapplicable); [] the specification of w	ing been filed in the United State pplication Serial No15/	s Patent and Trademark Office on  158,416 , and was amended on
AND WHEREAS _	SK Hynix Memory S	olutions Inc.
hereinafter referred to as said application, including	the assignee or applicant, is desi- ig any and all divisions and conti	rous of acquiring the entire right, title and interest in and to nuations thereof, and in and to said invention and any and and all renewals, reissues and prolongations thereof;
valuable consideration p assignor hereby assigns, exclusive right, title and and in and to said invent reissues and prolongation and enjoy the said applicany and all patents whit thereof, with all the righ and during the term or te prolongations thereof, for ample and beneficial a assignment had not been	said by said assignee to said assignee the said assign interest in and to said application interest in and to said application and any and all patents which is thereof; said assignee, and said astion, including any and all divident may be granted therefor, including any and all such may be granted therefor, including any and all such patents or the use and benefit of said a manner as the said assignor made.	consideration of One Dollar (\$1.00), and other good and signor, the receipt of which is hereby acknowledged, said see, and said assignee's successors and assigns, the full and it, including any and all divisions and continuations thereof, the may be granted therefor, including any and all renewals, dissignee's successors and assigns, to have, hold, exercise sions and continuations thereof, and the said invention and cluding any and all renewals, reissues and prolongations stages in anywise arising from or appertaining thereto, for which granted, including any and all renewals, reissues and saignee, and said assignee's successors and assigns, in as night or could have held and enjoyed the same, if this
	y and all acts relating to the obta	, upon the request of said assignee, or said assignee's ining or to the asserting of said patents, including any and
Patent on said application		Commissioner of Patents and Trademarks to issue Letters ns and continuations thereof, to said assignee, and said
		at the above-identified application was made or authorized or an original joint inventor of a claimed invention in the
	wledge that any willful false sta aprisonment of not more than five	atement made in this declaration is punishable under 18 e (5) years, or both.
ASSIGNOR (INVENTOR		
Printed or Typed Name:	Naveea KUMAR	

SKhynix

REEL: 038912 FRAME: 0047

### ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS YI-Min LIN , hereinafter referred to collectively as the assignor and
inventor, has invented a certain improvement relating to
PERFORMANCE OPTIMIZATION IN SOFT DECODING FOR TURBO PRODUCT CODES ,
[ ] said application being attached hereto; [X] said application having been filed in the United States Patent and Trademark Office on  May 18, 2016 , as Application Serial No. 15/158,416 , and was amended on (if applicable); [ ] the specification of which was filed under the Patent Cooperation Treaty on , Serial No. , the United States of America being designated.
AND WHEREAS SK Hynix Memory Solutions Inc.  hereinafter referred to as the assignce or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof,
NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assigner, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents which granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignee might or could have held and enjoyed the same, if this assignment had not been made.
AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.
As an above-named inventor. I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
ASSIGNOR (INVENTOR):
Signature:
Printed or Typed Name: Yi-Min LIN



REEL: 038912 FRAME: 0048

# ASSIGNMENT OF AND DECLARATION FOR APPLICATION FOR UNITED STATES LETTERS PATENT

WHEREAS Lingui ZENG , hereinafter referred to collectively as the assignor and
inventor, has invented a certain improvement relating to
PERFORMANCE OPTIMIZATION IN SOFT DECODING FOR TURBO PRODUCT CODES
[ ] said application being attached hereto; [X] said application having been filed in the United States Patent and Trademark Office on  May 18, 2016 , as Application Serial No. 15/158,416 , and was amended on (if applicable); [ ] the specification of which was filed under the Patent Cooperation Treaty on,  Serial No, the United States of America being designated.
AND WHEREAS SK Hynix Memory Solutions Inc. hereinafter referred to as the assignee or applicant, is desirous of acquiring the entire right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof;
NOW THIS WITNESSETH, that for and in consideration of One Dollar (\$1.00), and other good and valuable consideration paid by said assignee to said assignor, the receipt of which is hereby acknowledged, said assignor hereby assigns, sells and transfers to said assignee, and said assignee's successors and assigns, the full and exclusive right, title and interest in and to said application, including any and all divisions and continuations thereof, and in and to said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof; said assignee, and said assignee's successors and assigns, to have, hold, exercise and enjoy the said application, including any and all divisions and continuations thereof, and the said invention and any and all patents which may be granted therefor, including any and all renewals, reissues and prolongations thereof, with all the rights, powers, privileges and advantages in anywise arising from or appertaining thereto, for and during the term or terms of any and all such patents when granted, including any and all renewals, reissues and prolongations thereof, for the use and benefit of said assignee, and said assignee's successors and assigns, in as ample and beneficial a manner as the said assignor might or could have held and enjoyed the same, if this assignment had not been made.
AND said assignor hereby agrees to perform, upon the request of said assignee, or said assignee's successors or assigns, any and all acts relating to the obtaining or to the asserting of said patents, including any and all renewals, reissues and prolongations thereof.
AND said assignor authorizes and requests the Commissioner of Patents and Trademarks to issue Letters Patent on said application, and on any and all divisions and continuations thereof, to said assignee, and said assignee's successors and assigns, in accordance herewith.
As an above-named inventor, I hereby declare that the above-identified application was made or authorized to be made by me, and that I am the original inventor or an original joint inventor of a claimed invention in the application.
I hereby acknowledge that any wiliful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.
ASSIGNOR (INVENTOR):
Signature: 1044 (1905 Date: 65 25 2016
Printed or Typed Name: Lingqi ZENG

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