504823517 03/16/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4870252

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
SHIJIA WEI	03/15/2018
JOSEPH L. GREATHOUSE	03/15/2018
JOHN KALAMATIANOS	03/15/2018

RECEIVING PARTY DATA

Name:	ADVANCED MICRO DEVICES, INC.
Street Address:	2485 AUGUSTINE DRIVE
City:	SANTA CLARA
State/Country:	CALIFORNIA
Postal Code:	95054

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15923153

CORRESPONDENCE DATA

Fax Number: (512)213-1120

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: 512-213-0207

Email: ppepitone@atxiplaw.com
Correspondent Name: ZAGORIN CAVE LLP

Address Line 1: 11675 JOLLYVILLE ROAD #100

Address Line 4: AUSTIN, TEXAS 78759

ATTORNEY DOCKET NUMBER:	1001-0431	
NAME OF SUBMITTER:	PEGGY S. PEPITONE	
SIGNATURE:	/Peggy S. Pepitone/	
DATE SIGNED:	03/16/2018	

Total Attachments: 9

source=1001-0431_Assignment_Wei#page1.tif source=1001-0431_Assignment_Wei#page2.tif source=1001-0431_Assignment_Wei#page3.tif

source=1001-0431_Assignment_Greathouse#page1.tif

PATENT 504823517 REEL: 045254 FRAME: 0642

source=1001-0431_Assignment_Greathouse#page2.tif source=1001-0431_Assignment_Greathouse#page3.tif source=1001-0431_Assignment_Kalamatianos#page1.tif source=1001-0431_Assignment_Kalamatianos#page2.tif source=1001-0431_Assignment_Kalamatianos#page3.tif

ASSIGNMENT OF PATENT RIGHTS

This is an assignment of patent rights between inventor(s) Shijia Wei (hereinafter referred to as the "Inventor(s)") and Advanced Micro Devices, Inc., having a place of business at 2485 Augustine Drive, Santa Clara, CA 95054, USA (hereinafter referred to as the "Assignee").

WHEREAS, Inventor(s) are named as inventors in the patent application filed in US on March 16, 2018, entitled PER-INSTRUCTION ENERGY DEBUGGING USING INSTRUCTION SAMPLING HARDWARE, having application no. 15/923,153 , and having a docket number of 170256-US-NP (hereinafter referred to as the "Application"); and

WHEREAS, Assignee has a desire to acquire all rights, title, and interest in the invention(s) disclosed in the Application (hereinafter referred to as the "Invention(s)"), including any rights, title, and interest in the Invention(s) not previously transferred to Assignee through prior agreement.

NOW, THEREFORE, the parties agree as follows:

- 1. To the extent that Inventor(s) are subject to a prior agreement transferring rights, title, and/or interest in the Invention(s) to the Assignee, Inventor(s) hereby confirm such transfer.
- 2. To the extent that Inventor(s) retain any rights, title, or interest in the Invention(s) not vested in the Assignee on the date(s) of execution of this Assignment, Inventor(s) hereby assign and otherwise transfer to the Assignee their entire right, title, and interest, throughout the world, in and to: the Invention(s), including any patent applications, patents, invention registrations, and equivalents thereof (including any and all provisional, international, regional, and national patents and patent applications, and all divisions, continuations, continuations-in-part, renewals, reissues, reexams, substitutes and extensions thereof), for the Invention(s) and all rights to claim priority thereto. Inventor(s) further assign and otherwise transfer to Assignee all causes of action and remedies arising under any patent or patent application for the Invention(s) prior to, on, or after the

date(s) of execution of this Assignment. Inventor(s) shall not be entitled to an accounting for any causes of action or remedies pursued by Assignee.

- 3. The transfers set forth in Paragraphs 1 and 2 above are in consideration for the sum of at least one U.S. dollar (US\$1) (or its equivalent) and/or other consideration for which both parties acknowledge to be valuable. Such consideration includes but is not limited to at least one of the following: employment, an independent contractor agreement, monetary payment, or other benefit hereby acknowledged as received.
- 4. Inventor(s) hereby authorize and request the Commissioner of Patents and Trademarks, or equivalent thereof, to issue the patent for the Invention, and all resulting patents therefrom, insofar as the Inventor(s)' interest is concerned, to the Assignee.
- 5. Inventor(s) further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect Assignee's rights, title, and interest in the Invention(s).
- 6. Inventor(s) hereby authorize Assignee, its successors and assigns, its legal representatives, or anyone the Assignee may properly designate, to insert in this Assignment of Patent Rights the filing date and/or application number of the Application when ascertained.
- 7. Inventor(s) hereby further agree to, with respect to any patent application or patent for the Invention(s), at the expense of the Assignee:
 - i) testify in any legal proceedings,
 - ii) sign all lawful papers,
 - iii) execute all divisional, continuation, continuation-in-part, reissue, reexamination, and substitute applications,
 - iv) make all lawful oaths, and assist in vesting title in the Assignee and to aid the Assignee to obtain and enforce proper protection for the subject matter of the Invention(s) in all countries and regions, and
 - v) notify Assignee promptly (by facsimile or first class mail) of any subpoena or contact by any person other than Assignee or its agents regarding the Invention or resultant patent(s) issuing therefrom, and in any event at least one week prior to any deposition, legal inquiry or legal proceeding relating to the above identified invention.

This assignment is executed on the date(s) of which the Inventor(s) have signed.

Inventor:			
~ 4			

_____(Signature) <u>の</u>/パンパ (Date) (Print Name)

Witness # 1:

(Signature)

Witness # 2:

___ (Print Name)

(Signature) 3/15/28 (Date)

ASSIGNMENT OF PATENT RIGHTS

This is an assignment of patent rights between inventor(s) Joseph L. Greathouse (hereinafter referred to as the "Inventor(s)") and Advanced Micro Devices, Inc., having a place of business at 2485 Augustine Drive, Santa Clara, CA 95054, USA (hereinafter referred to as the "Assignee").

WHEREAS, Inventor(s) are named as inventors in the patent application filed in US on March 16, 2018, entitled PER-INSTRUCTION ENERGY DEBUGGING USING INSTRUCTION SAMPLING HARDWARE, having application no. 15/923,153, and having a docket number of 170256-US-NP (hereinafter referred to as the "Application"); and

WHEREAS, Assignee has a desire to acquire all rights, title, and interest in the invention(s) disclosed in the Application (hereinafter referred to as the "Invention(s)"), including any rights, title, and interest in the Invention(s) not previously transferred to Assignee through prior agreement.

NOW, THEREFORE, the parties agree as follows:

- 1. To the extent that Inventor(s) are subject to a prior agreement transferring rights, title, and/or interest in the Invention(s) to the Assignee, Inventor(s) hereby confirm such transfer.
- 2. To the extent that Inventor(s) retain any rights, title, or interest in the Invention(s) not vested in the Assignee on the date(s) of execution of this Assignment, Inventor(s) hereby assign and otherwise transfer to the Assignee their entire right, title, and interest, throughout the world, in and to: the Invention(s), including any patent applications, patents, invention registrations, and equivalents thereof (including any and all provisional, international, regional, and national patents and patent applications, and all divisions, continuations, continuations-in-part, renewals, reissues, reexams, substitutes and extensions thereof), for the Invention(s) and all rights to claim priority thereto. Inventor(s) further assign and otherwise transfer to Assignee all causes of action and remedies arising under any patent or patent application for the Invention(s) prior to, on, or after the

date(s) of execution of this Assignment. Inventor(s) shall not be entitled to an accounting for any causes of action or remedies pursued by Assignee.

- 3. The transfers set forth in Paragraphs 1 and 2 above are in consideration for the sum of at least one U.S. dollar (US\$1) (or its equivalent) and/or other consideration for which both parties acknowledge to be valuable. Such consideration includes but is not limited to at least one of the following: employment, an independent contractor agreement, monetary payment, or other benefit hereby acknowledged as received.
- 4. Inventor(s) hereby authorize and request the Commissioner of Patents and Trademarks, or equivalent thereof, to issue the patent for the Invention, and all resulting patents therefrom, insofar as the Inventor(s)' interest is concerned, to the Assignee.
- 5. Inventor(s) further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect Assignee's rights, title, and interest in the Invention(s).
- 6. Inventor(s) hereby authorize Assignee, its successors and assigns, its legal representatives, or anyone the Assignee may properly designate, to insert in this Assignment of Patent Rights the filing date and/or application number of the Application when ascertained.
- 7. Inventor(s) hereby further agree to, with respect to any patent application or patent for the Invention(s), at the expense of the Assignee:
 - i) testify in any legal proceedings,
 - ii) sign all lawful papers,
 - iii) execute all divisional, continuation, continuation-in-part, reissue, reexamination, and substitute applications,
 - iv) make all lawful oaths, and assist in vesting title in the Assignee and to aid the Assignee to obtain and enforce proper protection for the subject matter of the Invention(s) in all countries and regions, and
 - v) notify Assignee promptly (by facsimile or first class mail) of any subpoena or contact by any person other than Assignee or its agents regarding the Invention or resultant patent(s) issuing therefrom, and in any event at least one week prior to any deposition, legal inquiry or legal proceeding relating to the above identified invention.

Inventor: [Signature] <u>3/15/३৩18</u> (Date) (Print Name) Joseph L Greathouse State of Texas

County of Travis On March 15, 2018 before me,
(insert date)

Angela Palma Notary
(insert name and title of the notarizing officer) personally appeared Joseph L. Greathouse, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. certify under PENALTY OF PERJURY under the laws of the State of 12xas that the foregoing paragraph is true and correct. WITNESS my hand and official seal. Signature: Augela Palma (NOTARY SEAL) ANGÉLA PALMA Notary Public, State of Texas

Comm. Expires 09-17-2021 Notary 10: 6833420

This assignment is executed on the date(s) of which the Inventor(s) have signed.

ASSIGNMENT OF PATENT RIGHTS

This is an assignment of patent rights between inventor(s) John Kalamatianos (hereinafter referred to as the "Inventor(s)") and Advanced Micro Devices, Inc., having a place of business at 2485 Augustine Drive, Santa Clara, CA 95054, USA (hereinafter referred to as the "Assignee").

WHEREAS, Inventor(s) are named as inventors in the patent application filed in US on $\underline{\text{March 16, 2018}}$, entitled PER-INSTRUCTION ENERGY DEBUGGING USING INSTRUCTION SAMPLING HARDWARE, having application no. $\underline{15/923,153}$ and having a docket number of 170256-US-NP (hereinafter referred to as the "Application"); and

WHEREAS, Assignee has a desire to acquire all rights, title, and interest in the invention(s) disclosed in the Application (hereinafter referred to as the "Invention(s)"), including any rights, title, and interest in the Invention(s) not previously transferred to Assignee through prior agreement.

NOW, THEREFORE, the parties agree as follows:

- 1. To the extent that Inventor(s) are subject to a prior agreement transferring rights, title, and/or interest in the Invention(s) to the Assignee, Inventor(s) hereby confirm such transfer.
- 2. To the extent that Inventor(s) retain any rights, title, or interest in the Invention(s) not vested in the Assignee on the date(s) of execution of this Assignment, Inventor(s) hereby assign and otherwise transfer to the Assignee their entire right, title, and interest, throughout the world, in and to: the Invention(s), including any patent applications, patents, invention registrations, and equivalents thereof (including any and all provisional, international, regional, and national patents and patent applications, and all divisions, continuations, continuations-in-part, renewals, reissues, reexams, substitutes and extensions thereof), for the Invention(s) and all rights to claim priority thereto. Inventor(s) further assign and otherwise transfer to Assignee all causes of action and remedies arising under any patent or patent application for the Invention(s) prior to, on, or after the

date(s) of execution of this Assignment. Inventor(s) shall not be entitled to an accounting for any causes of action or remedies pursued by Assignee.

- 3. The transfers set forth in Paragraphs 1 and 2 above are in consideration for the sum of at least one U.S. dollar (US\$1) (or its equivalent) and/or other consideration for which both parties acknowledge to be valuable. Such consideration includes but is not limited to at least one of the following: employment, an independent contractor agreement, monetary payment, or other benefit hereby acknowledged as received.
- 4. Inventor(s) hereby authorize and request the Commissioner of Patents and Trademarks, or equivalent thereof, to issue the patent for the Invention, and all resulting patents therefrom, insofar as the Inventor(s)' interest is concerned, to the Assignee.
- 5. Inventor(s) further agree to execute any and all powers of attorney, applications, assignments, declarations, affidavits, and any other papers in connection therewith necessary to perfect Assignee's rights, title, and interest in the Invention(s).
- 6. Inventor(s) hereby authorize Assignee, its successors and assigns, its legal representatives, or anyone the Assignee may properly designate, to insert in this Assignment of Patent Rights the filing date and/or application number of the Application when ascertained.
- 7. Inventor(s) hereby further agree to, with respect to any patent application or patent for the Invention(s), at the expense of the Assignee:
 - i) testify in any legal proceedings,
 - ii) sign all lawful papers,
 - iii) execute all divisional, continuation, continuation-in-part, reissue, reexamination, and substitute applications,
 - iv) make all lawful oaths, and assist in vesting title in the Assignee and to aid the Assignee to obtain and enforce proper protection for the subject matter of the Invention(s) in all countries and regions, and
 - v) notify Assignee promptly (by facsimile or first class mail) of any subpoena or contact by any person other than Assignee or its agents regarding the Invention or resultant patent(s) issuing therefrom, and in any event at least one week prior to any deposition, legal inquiry or legal proceeding relating to the above identified invention.

This assignment is executed on the date(s) of which the Inventor(s) have signed.

Inventor:		
John Kalamatianos	(Signature)	(<u>03/ 5 </u>
Witness # 1: Line And Control Steven Roaseh	(Signature) (Print Name)	<i>3/15/2018</i> (Date)
Witness # 2:		
Chetana Keltela	(Signature) (Print Name)	<u> 3】Iの2018</u> (Date)

PATENT REEL: 045254 FRAME: 0652

RECORDED: 03/16/2018