

PATENT ASSIGNMENT

Electronic Version v1.1
 Stylesheet Version v1.1

| SUBMISSION TYPE: | NEW ASSIGNMENT | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---------------|----------------|---------------------|------------|-------------------|------------|----------------|------------|---------------|------------|---------------|------------|--------------------|------------|----------------|------------|-------------|------------|------------------|------------|--------------|------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT | | | | | | | | | | | | | | | | | | | | | | |
| CONVEYING PARTY DATA | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>Robert Scott Hartog</td> <td>02/24/2012</td> </tr> <tr> <td>Ralph Clay Taylor</td> <td>03/22/2012</td> </tr> <tr> <td>Michael Mantor</td> <td>03/05/2012</td> </tr> <tr> <td>Thomas Woller</td> <td>02/02/2012</td> </tr> <tr> <td>Kevin McGrath</td> <td>02/21/2012</td> </tr> <tr> <td>Sebastien Nussbaum</td> <td>02/23/2012</td> </tr> <tr> <td>Nuwan Jayasena</td> <td>01/31/2012</td> </tr> <tr> <td>Rex McCrary</td> <td>03/27/2012</td> </tr> <tr> <td>Philip J. Rogers</td> <td>03/02/2012</td> </tr> <tr> <td>Mark Leather</td> <td>03/30/2012</td> </tr> </tbody> </table> | | Name | Execution Date | Robert Scott Hartog | 02/24/2012 | Ralph Clay Taylor | 03/22/2012 | Michael Mantor | 03/05/2012 | Thomas Woller | 02/02/2012 | Kevin McGrath | 02/21/2012 | Sebastien Nussbaum | 02/23/2012 | Nuwan Jayasena | 01/31/2012 | Rex McCrary | 03/27/2012 | Philip J. Rogers | 03/02/2012 | Mark Leather | 03/30/2012 |
| Name | Execution Date | | | | | | | | | | | | | | | | | | | | | | |
| Robert Scott Hartog | 02/24/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Ralph Clay Taylor | 03/22/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Michael Mantor | 03/05/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Thomas Woller | 02/02/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Kevin McGrath | 02/21/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Sebastien Nussbaum | 02/23/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Nuwan Jayasena | 01/31/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Rex McCrary | 03/27/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Philip J. Rogers | 03/02/2012 | | | | | | | | | | | | | | | | | | | | | | |
| Mark Leather | 03/30/2012 | | | | | | | | | | | | | | | | | | | | | | |
| RECEIVING PARTY DATA | | | | | | | | | | | | | | | | | | | | | | | |
| Name: | Advanced Micro Devices, Inc. | | | | | | | | | | | | | | | | | | | | | | |
| Street Address: | One AMD Place | | | | | | | | | | | | | | | | | | | | | | |
| City: | Sunnyvale | | | | | | | | | | | | | | | | | | | | | | |
| State/Country: | CALIFORNIA | | | | | | | | | | | | | | | | | | | | | | |
| Postal Code: | 94088 | | | | | | | | | | | | | | | | | | | | | | |
| PROPERTY NUMBERS Total: 1 | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13325298</td> </tr> </tbody> </table> | | Property Type | Number | Application Number: | 13325298 | | | | | | | | | | | | | | | | | | |
| Property Type | Number | | | | | | | | | | | | | | | | | | | | | | |
| Application Number: | 13325298 | | | | | | | | | | | | | | | | | | | | | | |
| CORRESPONDENCE DATA | | | | | | | | | | | | | | | | | | | | | | | |
| Fax Number: | (202)371-2540 | | | | | | | | | | | | | | | | | | | | | | |
| Phone: | 202.371.2600 | | | | | | | | | | | | | | | | | | | | | | |
| Email: | cshea@skgf.com | | | | | | | | | | | | | | | | | | | | | | |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent via US Mail.</i> | | | | | | | | | | | | | | | | | | | | | | | |
| Correspondent Name: | Sterne, Kessler, Goldstein & Fox P.L.L.C | | | | | | | | | | | | | | | | | | | | | | |

OP \$40.00 13325298

Address Line 1: 1100 New York Avenue, N.W.
Address Line 4: Washington, DISTRICT OF COLUMBIA 20005

ATTORNEY DOCKET NUMBER: 1972.2200000

NAME OF SUBMITTER: Michael D. Specht Reg. No. 54,463

Total Attachments: 22

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ASSIGNMENT OF PATENT RIGHTS

This is an assignment of patent rights between inventor(s) **(1) Scott Hartog, (2) Ralph Clay Taylor, (3) Michael Mantor, (4) Thomas R. Woller, (5) Kevin McGrath, (6) Sebastien Nussbaum, (7) Nuwan Jayasena, (8) Rex McCrary, (9) Philip J. Rogers, and (10) Mark Leather** (hereinafter referred to as the "Inventor(s)") and Advanced Micro Devices, Inc., having a place of business at One AMD Place, Sunnyvale, California, USA (hereinafter referred to as the "Assignee").

WHEREAS, Inventor(s) are named as inventors in the patent application filed in USA on **December 14, 2011**, entitled **A METHOD OF RESUMING AN APD WAVEFRONT IN WHICH A SUBSET OF ELEMENTS HAVE FAULTED** having application no. **13/325,298**, and having a docket number of **1972.2200000** (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.

Robert
Inventor: **Scott Hartog**

[Signature] (Signature) 2/24/2012 (Date)
Robert Scott Hartog (Print Name)

State of Massachusetts
County of Middlesex

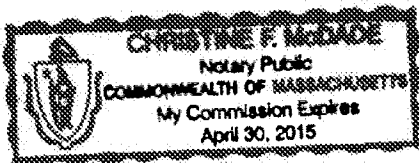
On 2/24/2012 before me,
(insert date)

Christine F. McEade - Ex. Ass't / Notary
(insert name and title of the notarizing officer)

personally appeared Robert Scott Hartog
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.

I certify under PENALTY OF PERJURY under the laws of the State of Massachusetts that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



(NOTARY SEAL)

Signature: *[Signature]*

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: **Ralph (Clay) Taylor**

[Signature] (Signature) 3/22/12 (Date)
RALPH TAYLOR (Print Name)

State of Florida

County of Orange

On 3/22/2012 before me,
(insert date)

Jennie Leanna Wilson Receptionist I
(insert name and title of the notarizing officer)

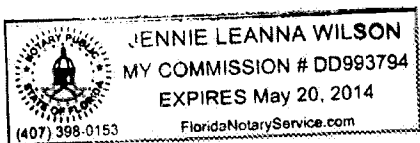
personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose
name(s) is/are subscribed to the within instrument and acknowledged to me that
he/she/they executed the same in his/her/their authorized capacity(ies), and that by
his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of
which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of
Florida that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(NOTARY SEAL)

Signature: [Signature]



Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: Michael Mantor

Michael Mantor (Signature) 3/5/2012 (Date)
MICHAEL MANTOR (Print Name)

State of Florida

County of Orange

On March 5, 2012 before me,
(insert date)

Jennie Leanna Wilson Receptionist 2
(insert name and title of the notarizing officer)

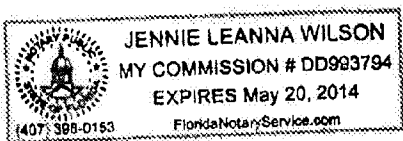
personally appeared Michael Mantor
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Florida that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(NOTARY SEAL)

Signature: Jennie Leanna Wilson



Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: **Thomas Woller**

Thomas Woller (Signature)
Thomas Woller (Print Name)

2/2/2012 (Date)

State of Texas

County of Travis

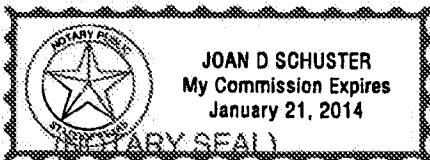
On February 2, 2012 before me,
(insert date)

Joan Schuster, Senior Administrator
(insert name and title of the notarizing officer)

personally appeared _____,
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.

I certify under PENALTY OF PERJURY under the laws of the State of
Texas that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature: [Handwritten Signature]

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: Kevin McGrath

Kevin McGrath (Signature) 2/21/12 (Date)
Kevin McGrath (Print Name)

State of _____)

County of _____)

On _____ before me,
(insert date)

(insert name and title of the notarizing officer)

personally appeared _____
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.

I certify under PENALTY OF PERJURY under the laws of the State of
_____ that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

(NOTARY SEAL)

Signature: _____

Witness # 1:

April Oliver (Signature) 2/21/12 (Date)
April Oliver (Print Name)

Witness # 2:

Theresa Pfeiffer (Signature) 2/24/12 (Date)
Theresa Pfeiffer (Print Name)

Inventor: Sebastien Nussbaum

[Signature] (Signature) Feb 23rd 2012 (Date)
SEBASTIEN NUSSBAUM (Print Name)

State of Massachusetts
County of Middlesex

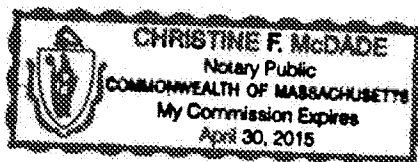
On 2/23/2012 before me,
(insert date)

Christine F. McDade - Ex. Asst / Notary
(insert name and title of the notarizing officer)

personally appeared Sebastien Nussbaum
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.

I certify under PENALTY OF PERJURY under the laws of the State of Massachusetts that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



(NOTARY SEAL)

Signature: [Signature]

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: Nuwan Jayasena

N.S. Jay (Signature) 1/31/12 (Date)
NUWAN JAYASENA (Print Name)

State of California
County of Santa Clara

On January 31, 2012 before me,
(insert date)

Rita S. Marquis
(insert name and title of the notarizing officer)

personally appeared Nuwan Jayasena,
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.

I certify under PENALTY OF PERJURY under the laws of the State of
California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature: Rita S. Marquis

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: **Rex McCrary**

Rex McCrary (Signature) 3-27-2013 (Date)
Rex McCrary (Print Name)

State of Florida)
County of Orange)

On 3/27/2013 before me,
(insert date)

Jennie Leanna Wilson Receptionist I
(insert name and title of the notarizing officer)

personally appeared *Rex McCrary*,
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.

I certify under PENALTY OF PERJURY under the laws of the State of
Florida that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



(NOTARY SEAL)

Signature: *Jennie Leanna Wilson*

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: Philip J. Rogers

[Signature] (Signature) 3/2/2012 (Date)

(Print Name)

State of Massachusetts
County of Middlesex

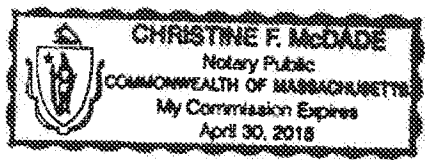
On 3/2/2012 before me,
(insert date)

Christina F. McDade (Ex. Asst / Notary)
(insert name and title of the notarizing officer)

personally appeared Philip Rogers
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.

I certify under PENALTY OF PERJURY under the laws of the State of Massachusetts that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



(NOTARY SEAL)

Signature: [Signature]

Witness # 1:

_____ (Signature) _____ (Date)
_____ (Print Name)

Witness # 2:

_____ (Signature) _____ (Date)
_____ (Print Name)

Inventor: Mark Leather

Mark Leather (Signature) 3/30/12 (Date)
MARK LEATHER (Print Name)

State of California
County of Santa Clara

On March 30 2012 before me,
(insert date)

Rita S. Marquis
(insert name and title of the notarizing officer)

personally appeared Mark Leather,
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.

I certify under PENALTY OF PERJURY under the laws of the State of
California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



(NOTARY SEAL)

Signature: Rita S. Marquis

Witness # 1:

..... (Signature) (Date)
..... (Print Name)

Witness # 2:

..... (Signature) (Date)
..... (Print Name)