504237320 02/21/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT4283997

| SUBMISSION TYPE: | NEW ASSIGNMENT | NEW ASSIGNMENT | | |
|-----------------------|----------------|----------------|--|--|
| NATURE OF CONVEYANCE: | ASSIGNMENT | ASSIGNMENT | | |
| CONVEYING PARTY DATA | | | | |
| | Name | Execution Date | | |
| IHAB AMER | | 01/23/2017 | | |
| GABOR SINES | | 01/23/2017 | | |
| KHALED MAMMOU | | 02/20/2017 | | |
| HAIBO LIU | | 01/23/2017 | | |
| EDWARD HAROLD | | 01/23/2017 | | |
| LEI ZHANG | | 01/23/2017 | | |
| | | | | |

 FABIO GULINO
 01/23/2017

 EHSAN MIRHADI
 01/23/2017

 HO HIN LAU
 01/23/2017

RECEIVING PARTY DATA

| Name: | ATI TECHNOLOGIES ULC |
|-----------------|--------------------------------|
| Street Address: | One Commerce Valley Drive East |
| City: | Markham |
| State/Country: | CANADA |
| Postal Code: | L3T 7X6 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 14981835 |

CORRESPONDENCE DATA

| Fax Number: | (512) | 355-1119 | |
|------------------------|------------------------------|---|--|
| • | | e-mail address first; if that is unsuccessful, it will be sent nat is unsuccessful, it will be sent via US Mail. | |
| Phone: | 5125 | 322455 | |
| Email: | pamela.polnick@ds-patent.com | | |
| Correspondent Name: | DAVIDSON SHEEHAN, LLP | | |
| Address Line 1: | 8834 | NORTH CAPITAL OF TEXAS HWY. | |
| Address Line 2: | SUIT | E 100 | |
| Address Line 4: | AUST | TIN, TEXAS 78759 | |
| ATTORNEY DOCKET NUMBER | • | 1458-150057 | |
| NAME OF SUBMITTER: | | PAMELA S. POLNICK | |

504237320

PATENT REEL: 041320 FRAME: 0185

| SIGNATURE: | /Pamela S. Polnick/ |
|-----------------------------------|---------------------|
| DATE SIGNED: | 02/21/2017 |
| Total Attachments: 12 | |
| source=2017-02-21_150057_Assignme | nt#page1.tif |
| source=2017-02-21_150057_Assignme | nt#page2.tif |
| source=2017-02-21_150057_Assignme | nt#page3.tif |
| source=2017-02-21_150057_Assignme | nt#page4.tif |
| source=2017-02-21_150057_Assignme | nt#page5.tif |
| source=2017-02-21_150057_Assignme | nt#page6.tif |
| source=2017-02-21_150057_Assignme | nt#page7.tif |
| source=2017-02-21_150057_Assignme | nt#page8.tif |
| source=2017-02-21_150057_Assignme | nt#page9.tif |
| source=2017-02-21_150057_Assignme | nt#page10.tif |
| source=2017-02-21_150057_Assignme | nt#page11.tif |
| source=2017-02-21_150057_Assignme | nt#page12.tif |

ASSIGNMENT OF PATENT RIGHTS

This is an assignment of patent rights between inventor(s) Ihab Amer, Gabor Sines, Khaled Mammou, Halbo Liu, Edward Harold, Lei Zhang, Fabio Gulino, Ehsan Mirhadi, and Ho Hin Lau (hereinafter referred to as the "Inventor") and ATI Technologies ULC, having a place of business at One Commerce Valley Drive East, Markham, Ontario, Canada (hereinafter referred to as the "Assignee").

WHEREAS, Inventor is named as an inventor(s) in the patent application filed in the United States of America on December 28, 2015, entitled METHOD AND APPARATUS FOR DETERMINING THE SEVERITY OF CORRUPTION IN A PICTURE, having application no. 14/981,835, and having a docket number of 1458-150057 (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:

- To the extent that Inventor is subject to a prior agreement transferring rights, title, and/or interest in the Invention(s) to the Assignee, Inventor hereby confirms such transfer.
- 2. To the extent that Inventor retains any rights, title, or interest in the Invention(s) not vested in the Assignee on the date(s) of execution of this Assignment, Inventor hereby assigns and otherwise transfers to the Assignee Inventor's 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 divisional applications, continuation applications, continuation in-part applications, renewals, reissue applications, reexamination applications, substitutes, and extensions thereof), for the Invention(s) and all rights to claim priority thereto. Inventor further assigns and otherwise transfers to Assignee all

PATENT REEL: 041320 FRAME: 0187

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 shall not be entitled to an accounting for any causes of action or remedies pursued by Assignee.

- 3. To the extent not covered by Paragraph 2, Inventor hereby assigns and transfers to the Assignee, all right, title, and interest, design and patent rights and all causes of action and remedies arising therefrom, that Inventor may have acquired during Inventor's employment/engagement with the Assignee, in and to all ideas, inventions, and works of authorship, including, without limitation, computer programs, software and documentation, improvements, or discoveries which Inventor conceived, made, developed, or worked on (whether solely or jointly with others, and whether or not copyrightable or patentable or reduced to drawings, written description, documentation, models, or other tangible form) during the term of Inventor's employment/engagement and that relate either to Assignee's products. manufacturing processes, manufacturing equipment, process controls, services, or research and development, or to inventor's employment/engagement activities (collectively "Work Product"). Inventor hereby waives, in favor of the Assignee, all moral rights arising under the Copyright Act (Canada) as amended (or any successor legislation of similar effect) or similar legislation in any applicable jurisdiction, or at common law, to the full extent that such rights may be waived in each respective jurisdiction, that Inventor may have now or in the future with respect to the Work Product.
- 4. The transfers set forth in Paragraphs 1, 2, and 3 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: continued employment/engagement, monetary payment (including the one specifically referenced herein), or other benefit hereby acknowledged as received.
- During and after Inventor's employment/engagement with the Assignee. Inventor will
 assist the Assignee in every reasonable way to obtain and maintain, for the use and

benefit of the Assignee or its nominees, patents, copyrights, or other protection for any ideas, inventions, works of authorship, improvements, or discoveries, including (without limitation) by signing any papers, authorizations, applications, or assignments, making and keeping proper records, and providing evidence or testimony. Assignee will pay for any actual and reasonable expenses Inventor incurs in providing such assistance. If Assignee is unable for any reason to secure Inventor's signature to apply for or to pursue any application for any Canadian or foreign patents or copyright, trademark, or other registrations covering the Work Products as assigned to the Assignee above, then Inventor hereby irrevocably appoint the Assignee as Inventor's lawful attorney and agent, to act for and on Inventor's behalf and stead to execute and file any such applications and to do all other lawfully permitted acts to further the prosecution and issuance of letters patent, copyright, trademark, or other registrations thereon with the same legal force and effect as if executed by Inventor, and Inventor declares that this power of attorney shall be deemed to be coupled with an interest and irrevocable, and may be exercised during any subsequent legal incapacity.

- Inventor hereby authorizes and requests 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.
- Inventor further agrees 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).
- Inventor hereby authorizes 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.
- Inventor hereby further agrees 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,

ili) 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 of which the Inventor has signed.

Inventor:

Jan 23, 2017 (Signature) (Date)

Ihab Amer

| Province of: | Onhario) | (Seal): |
|--------------------------|----------|---------|
| Regional Municipality of | Markham) | |

TNðtary)

Inventor:

Dolar hru (Signature)

Gábor Sines/

(Gate)

| Province of: | Onhan) | (Seal): |
|---------------------------|----------|---------|
| Regional Municipality of: | Markhum) | |

Before me personally appeared said <u>(b)oor Sives</u> and acknowledged the foregoing instrument to be his/her free act and deed this ________ and acknowledged the day of

(Notary)

AMD Reference No. 150057 Inventor: Khaled Mammou (Signature) <u>Fr620,2017</u>(Date) KHALED MAHMOU (Print Name) Witness # 1: (Signature) <u>Feb 20, 2014</u> (Date) CHOUHEIBA AMAMI (Print Name) Witness # 2: tel 20,2017(Dana) (Signature) Sound SKOURT (Print Name) PATENT

REEL: 041320 FRAME: 0192

Inventor: Jan 23 2017 (Date) (Signature)

Haibo Llu

Province of: Regional Municipality of: <u>Ontwind</u>) (Seal): Mail Whenny)

Before me personally appeared said $\frac{\mu_{\alpha_1} b_{\alpha_2} L_{10}}{100}$ and acknowledged the foregoing instrument to be his/her free act and deed this $\frac{\lambda_3 \Omega}{20}$ day of $\frac{\lambda_3 \Omega}{20}$

(Notary)

Inventor:

(Signature) Jon 23 2017-(Date)

Edward Harold

Province of: Regional Municipality of: <u>نه (</u>Seal): ۱همه)

Before me personally appeared said $\underline{\Sigma}, \underline{U}$ with Nore and acknowledged the foregoing instrument to be his/her free act and deed this $\underline{25.2}$ day of $\underline{50.11}$

Ma

(Notary)

Sorel Bosan

PATENT REEL: 041320 FRAME: 0194

| Inventor: | | |
|-----------|-------------|------------------|
| | (Signature) | 1/23/2017 (Date) |
| Lei Zhang | | , |

| Province of: | Onhario) | (Seal): |
|--------------------------|-----------|---------|
| Regional Municipality of | Mur Kham) | |

Before me personally appeared said \underline{Lei} $\underline{2Navy}$ and acknowledged the foregoing instrument to be his/her free act and deed this $\underline{23rd}$ day of $\underline{3avy}$

}____(Notany)

Inventor:

(Signature)

JAJ. 23, 2017 (Date)

Fabio Guliño

50 Markham Onberio Province of: (Seal):) Regional Municipality of:

Before me personally appeared said $\frac{Fabile}{100}$ and acknowledged the foregoing instrument to be his/her free act and deed this ______ and acknowledged the day of _______

(Notary)

| Inventor: | | | |
|-----------------------------------|--------------------------|--------------|----------------------------|
| | ٠. | | . Langer of |
| M | and the second design of | (Signature) | (Date) + 105, CJ, 23, 2017 |
| manager and for the second second | | (migrace, o) | (Andrew (march) |

Ehsan Mirhadi

| Province of: | <u>Onbaño</u>) | (Seal): |
|---------------------------|-----------------|---------|
| Regional Municipality of: | Harkhum) | |

Before me personally appeared said $\frac{\sum h_{box} M(h_{a})}{23}$ and acknowledged the foregoing instrument to be his/her free act and deed this ______23 day of ______20)

<u>(Notary</u>)

Inventor:

(Signature)

23-01-2017 (Date)

Ho Hin Lau

Province of: <u>Onbacio</u> (Seal): Regional Municipality of: <u>New Whark</u>

Before me personally appeared said $\frac{M_0 M_N L_{au}}{1000}$ and acknowledged the foregoing instrument to be his/her free act and deed this ______2322 day of 20^{100}

(Notary)