## 505308230 02/01/2019

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5355010

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

#### **CONVEYING PARTY DATA**

Name	Execution Date
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SAURABH PURI	02/20/2018
PATRICK LE CALLET	01/26/2018

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State/Country:	FRANCE
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#### **PROPERTY NUMBERS Total: 1**

Property Type	Number
Application Number:	16317228

#### **CORRESPONDENCE DATA**

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ATTORNEY DOCKET NUMBER:	PF160086 US PCT
NAME OF SUBMITTER:	RONALD KOLCZYNSKI
SIGNATURE:	/Ronald Kolczynski/
DATE SIGNED:	02/01/2019

### **Total Attachments: 4**

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PATENT 505308230 REEL: 048215 FRAME: 0877

As a below named inventor, I hereby declare that:

I believe fam the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought on

# METHOD AND APPARATUS FOR LAST COEFFICIENT CODING FOR ADAPTIVE TRANSFORM BASED VIDEO COMPRESSION

the specification of which was filed on July 12, 2017 as Application Serial No. PCT/EP2017/067616 and was amended on , or, if not identified here by filing date and serial number, is attached hereto.

The above-identified application was made or authorized to be made by me.

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

Lacknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-inpart applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Theraby declare that all statements made hereby of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are purishable by fine or imprisonment of not more than five (5) years, or both, under 18 USC 1001

## assignment and agreement in an application for letters patent

For valuable consideration received, I hereby sell, assign and transfer to Thomson Liberating, a corporation duly organized and existing under the laws of the country of France, its successors, and assigns my entire right, title and interest, for all countries in and to said inventions, and all the rights and privileges under any and all Letters Patent that may be granted therefor, and any divisions, continuations, reissues and extensions thereof.

I agras that, when requested, I will, without charge to said corporation but at its expense, sign all papers, take all rightful oaths, make all rightful declarations and do all acts which may be necessary, destrable or convenient for securing and maintaining patents or other forms of projection for said inventions in any and all countries and for vesting title thereto in said corporation, its successors, assigns or

Lagras that I will communicate to said corporation or its representatives any facts known to me respecting said inventions and when requested by said corporation and at its expense will testify in any legal proceedings, and generally do everything possible to aid said. corporation, its successors, assigns and legal representatives or nominees, to obtain or enforce proper protection for said inventions in any and all countries.

I authorize and empower said corporation, its successors, assigns or nominees, to make application for patent or other form of protection for said inventions in its or their own name, or in my/our name, in any and all countries and to stocke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may herselforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said corporation or its successors, assigns or nominees to apply for patent or other proper protection for said inventions, and to itaim the aforesaid benefits of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I coverant with Thomson Libersing, its successors, assigns, legal representatives, and nominees, that to the best of my knowledge the right, title and interest herein conveyed by me are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed at	Can ling France Date	Non In 8th 2017
Inventor Name	Sebastien LASSERRE (Type or Print)	(Signature in Full – No Initials)
Post Office Address	_c/o Technicolor R&D France 975, avenue des C	hamps Blancs, 35576 Çesson Sevigne, France
1 <sup>st</sup> Witness	Town for Interest of Type or Print)	(Signature in Full – No Initials)
2 <sup>nd</sup> Witness	Februa LE LEANNEC (Type or Print)	(Signature jarFull – No Initials)

**PATENT** REEL: 048215 FRAME: 0878

Charle B II i G

As a below named inventor, I hereby declare that:

I believe I am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

### -Last coefficient coding for adaptive transform based video compression-

the specification of which was filed on 7/12/2017 as Application Serial No. PCT/EP17/067616 and was amended on , or, if not identified here by filing date and serial number, is attached hereto.

The above-identified application was made or authorized to be made by me.

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment of not more than five (5) years, or both, under 18 USC 1001.

#### ASSIGNMENT AND AGREEMENT IN AN APPLICATION FOR LETTERS PATENT

For valuable consideration received, I hereby sell, assign and transfer to **Thomson Licensing**, a corporation duly organized and existing under the laws of the country of France, its successors, and assigns my entire right, title and interest, for all countries in and to said inventions, including India and the United States of America, and all the rights and privileges under any and all Letters Patent that may be granted therefor, and any divisions, continuations, reissues and extensions thereof.

I agree that, when requested, I will, without charge to said corporation but at its expense, sign all papers, take all rightful oaths, make all rightful declarations and do all acts which may be necessary, desirable or convenient for securing and maintaining patents or other forms of protection for said inventions in any and all countries and for vesting title thereto in said corporation, its successors, assigns or nominees.

I agree that I will communicate to said corporation or its representatives any facts known to me respecting said inventions and when requested by said corporation and at its expense will testify in any legal proceedings, and generally do everything possible to aid said corporation, its successors, assigns and legal representatives or nominees, to obtain or enforce proper protection for said inventions in any and all countries.

I authorize and empower said corporation, its successors, assigns or nominees, to make application for patent or other form of protection for said inventions in its or their own name, or in my/our name, in any and all countries and to invoke and claim for any application for patent or other form of protection for said inventions filed by it or them, the benefit of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it, and to invoke and claim such right of priority without further written or oral authorization from me.

I hereby consent that a copy of this assignment shall be deemed a full legal and formal equivalent of any assignment, consent to file or like document which may be required in any country for any purpose and more particularly in proof of the right of the said corporation or its successors, assigns or nominees to apply for patent or other proper protection for said inventions, and to claim the aforesaid benefits of the right of priority provided by the International Convention for the Protection of Industrial Property, as amended, or by any convention which may henceforth be substituted for it.

I covenant with Thomson Licensing, its successors, assigns, legal representatives, and nominees, that to the best of my knowledge the right, title and interest herein conveyed by me are free and clear of any encumbrance, and that I have full right to convey the same as herein expressed.

Signed atBurlington, Canada	Date
Inventor Name : Puri, Saurabh	
	(Signature in Full - No Initials)
Post Office Address : 5161 Falconcrest Drive, Burlington, ON L7	7L 6K4, Canada
	O = A0:
1st Wittness Ahuja Seema	Seems Hays
(Type or Print)	(Signature in Full - No Initials)
2nd Wittness Ahuja Mohini	A A A A A A A A A A A A A A A A A A A
(Type or Print)	(Signature in Full - No Initials)

. . . . . . . . .

Docket No. PE160086

As a below named inventor, I hereby declare that:

| believe | am the original inventor or an original joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

METHOD AND APPARATUS FOR LAST COEFFICIENT CODING FOR ADAPTIVE TRANSFORM BASED VIDEO COMPRESSION PCT/EP2017/0676 and was amended on the specification of which was filed on as Application Serial No. July 12, 2017 16 , or, if not identified here by filing date and serial number, is attached hereto. The above-identified application was made or authorized to be made by me.

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

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Signed at	NANTEL	Date 26	/or / B	
Inventor Name	Patrick LE CALLET		4	
معمد بشدية وليند بنديا أنيب	(Type or Print)	(Signatu	re in full – No Initials)	
Post Office	abis nuo do saint etro	mne 44330	E PAUSET - FR	MÁ

**PATENT** REEL: 048215 FRAME: 0880 Customer No. 24498

(Type or Print)

**DECLARATION** 

Docket No. PF160086

(Signature in Full—No Initials)

Address
France

1st Witness

(Type or Print)

Control Technicolor R&D France 975, avenue des Champs Blancs, 35576 Cesson-Sevigne, France

(Signature in Full No Initials)

PATENT REEL: 048215 FRAME: 0881