

**PATENT ASSIGNMENT**

Electronic Version v1.1  
 Stylesheet Version v1.1

|                                                                                      |                                           |
|--------------------------------------------------------------------------------------|-------------------------------------------|
| SUBMISSION TYPE:                                                                     | NEW ASSIGNMENT                            |
| NATURE OF CONVEYANCE:                                                                | ASSIGNMENT                                |
| <b>CONVEYING PARTY DATA</b>                                                          |                                           |
| <b>Name</b>                                                                          | <b>Execution Date</b>                     |
| Benoit Pelletier                                                                     | 12/10/2009                                |
| Diana Pani                                                                           | 12/10/2009                                |
| Paul Marinier                                                                        | 12/10/2009                                |
| Christopher R. Cave                                                                  | 12/10/2009                                |
| Lujing Cai                                                                           | 12/21/2009                                |
| <b>RECEIVING PARTY DATA</b>                                                          |                                           |
| <b>Name:</b>                                                                         | InterDigital Patent Holdings, Inc.        |
| <b>Street Address:</b>                                                               | 3411 Silverside Road                      |
| <b>Internal Address:</b>                                                             | Concord Plaza, Suite 105, Hagley Building |
| <b>City:</b>                                                                         | Wilmington                                |
| <b>State/Country:</b>                                                                | DELAWARE                                  |
| <b>Postal Code:</b>                                                                  | 19810                                     |
| <b>PROPERTY NUMBERS Total: 1</b>                                                     |                                           |
| <b>Property Type</b>                                                                 | <b>Number</b>                             |
| <b>Application Number:</b>                                                           | 12610289                                  |
| <b>CORRESPONDENCE DATA</b>                                                           |                                           |
| <b>Fax Number:</b>                                                                   | (215)568-6499                             |
| <i>Correspondence will be sent via US Mail when the fax attempt is unsuccessful.</i> |                                           |
| <b>Phone:</b>                                                                        | 215-568-6400                              |
| <b>Email:</b>                                                                        | YHwang@volpe-koenig.com                   |
| <b>Correspondent Name:</b>                                                           | Volpe and Koenig, P.C.                    |
| <b>Address Line 1:</b>                                                               | 30 South 17th Street                      |
| <b>Address Line 2:</b>                                                               | United Plaza, Suite 1600                  |
| <b>Address Line 4:</b>                                                               | Philadelphia, PENNSYLVANIA 19103          |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                       | IPH-2-2263US02 YBH/JCS                    |

CH \$40.00 12610289

**501059227**

**PATENT  
 REEL: 023746 FRAME: 0452**

NAME OF SUBMITTER:

Yong Beom Hwang

**Total Attachments: 7**

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page1.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page2.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page3.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page4.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page5.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page6.tif

source=IPH\_2\_2263US02\_ExecutedAssignment\_EFS#page7.tif

**ASSIGNMENT**

Benoit Pelletier, residing at 11-13<sup>th</sup> Street, Roxboro<sup>^</sup>Montreal Quebec H8Y 1L3, Canada, a citizen of Canada; Diana Pani, residing at 1950 Lincoln Avenue, Apartment #1812, Montreal, Quebec H3H 2N8, Canada, a citizen of Canada; Paul Marinier, residing at 1805 Stravinski, Brossard, Quebec J4X 2J7, Canada, a citizen of Canada; Christopher R. Cave, residing at 258 Baffin, Dollard-des-Ormeaux, Montreal, Quebec H9A 3J2, Canada, a citizen of Canada; and Lujing Cai, residing at 517 Imbrie Place, Morganville, New Jersey 07751, the United States of America, a citizen of the United States of America, (hereafter jointly and severally referred to as the undersigned), are the inventors of

**METHOD AND AN APPARATUS FOR PROVIDING CONTROL  
INFORMATION FOR MULTI-CARRIER UPLINK TRANSMISSION**

for which the undersigned have executed an application for United States Letters Patent, U.S. Patent Application No. 12/610,289, filed October 31, 2009.

InterDigital Patent Holdings, Inc., a Delaware corporation, having a principal place of business at 3411 Silverside Road, Concord Plaza, Suite 105, Hagley Building, Wilmington, Delaware 19810, USA, (hereafter referred to as the assignee), is desirous of acquiring the entire right, title and interest in said invention, all applications for and all letters patent issued on said invention.

For good and valuable consideration, the receipt and sufficiency of which is acknowledged, the undersigned, intending to be legally bound, do hereby sell, assign and transfer to the assignee and assignee's successors, assigns and legal representatives the entire right, title and interest in said invention and all patent applications thereon, including, but not limited to, the application for United States Letters Patent entitled as above, and all divisions and continuations thereof, and in all letters patent, including all reissues and reexaminations thereof, throughout the world, including the right to claim priority under the Paris Convention or other treaty.

MBS  
01/06/2010

It is agreed that the undersigned shall be legally bound, upon request of the assignee, to supply all information and evidence relating to the making and practice of said invention, to testify in any legal proceeding relating thereto, to execute all instruments proper to patent the invention throughout the world for the benefit of the assignee, and to execute all instruments proper to carry out the intent of this instrument.

The undersigned warrant that the rights and property herein conveyed are free and clear of any encumbrance.

EXECUTED under seal on this 10<sup>th</sup> day of DECEMBER,

2009 at MONTREAL, QC  
(Place)

Witness:

P. Trichant  
PAVINA TRICHANT

Benoit Pelletier (L.S.)  
Benoit Pelletier

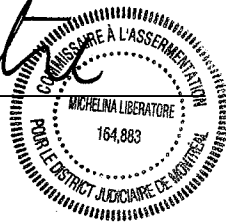
~~State of~~ PROVINCE OF QUEBEC

~~County of~~ <sup>ss.</sup> MUNICIPALITY OF MONTREAL

On this 10<sup>th</sup> day of DECEMBER, 2009 before me personally appeared Benoit Pelletier, to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that he executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

G. Libertore  
Notary Public



My Commission Expires:

13 Sept 2010

EXECUTED under seal on this 10<sup>th</sup> day of DECEMBER,

2009 at MONTREAL, QC  
(Place)

Witness:

P. Trichan  
PAVINA TRICHANH

Diana Pani (L.S.)  
Diana Pani

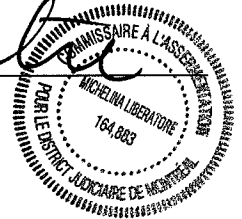
State of PROVINCE OF QUEBEC

County of MUNICIPALITY OF MONTREAL <sup>SS.</sup>

On this 10<sup>th</sup> day of DECEMBER, 2009 before me personally appeared Diana Pani, to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that she executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

G. Lubin  
Notary Public



My Commission Expires:

13 Sept 2010

EXECUTED under seal on this 10th day of DECEMBER,

2009 at MONTREAL, Qc  
(Place)

Witness:

P. Trichard  
PAVINA TRICHARD

Paul Marinier (L.S.)  
Paul Marinier

State of PROVINCE OF QUÉBEC

County of MUNICIPALITY OF MONTREAL <sup>SS.</sup>

On this 10th day of DECEMBER, 2009 before me personally appeared Paul Marinier, to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that he executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

G. Rite  
Notary Public



My Commission Expires:

13 Sept 2012

EXECUTED under seal on this 10th day of DECEMBER,

2009 at MONTREAL, QC  
(Place)

Witness:

P. Trichant  
PAVINA TRICHANT

[Signature] (L.S.)  
Christopher R. Cave

State of PROVINCE OF QUEBEC

County of MUNICIPALITY OF MONTREAL <sup>SS.</sup>

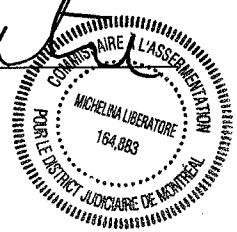
On this 10th day of DECEMBER, 2009 before me personally appeared Christopher R. Cave, to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that he executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

[Signature]  
Notary Public

My Commission Expires:

13 Sept 2010





EXECUTED under seal on this 21<sup>st</sup> day of December,

2009 at King of Prussia, Pennsylvania  
(Place)

Witness:

Amy L. Serhienko

[Signature] (L.S.)  
Lujing Cai

Commonwealth  
State of Pennsylvania

ss.

County of Montgomery

On this 21<sup>st</sup> day of December, 2009 before me personally appeared Lujing Cai, to me known to be the person described herein and who executed the foregoing instrument, and acknowledged that he executed the same knowingly and willingly and for the purposes therein contained.

Witness my hand and Notarial seal the day and year immediately above written.

[Signature]  
Notary Public

My Commission Expires:

June 12, 2011

