### PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2

EPAS ID: PAT2645140

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

### **CONVEYING PARTY DATA**

| Name             | Execution Date |
|------------------|----------------|
| JOO YOUNG LEE    | 11/12/2013     |
| SUNG HOON KIM    | 11/12/2013     |
| HYON GON CHOO    | 11/13/2013     |
| JIN SOO CHOI     | 11/13/2013     |
| JIN WOONG KIM    | 11/13/2013     |
| SUK JIN HONG     | 12/03/2013     |
| DONG WOOK KANG   | 11/20/2013     |
| KYEONG HOON JUNG | 11/20/2013     |

#### **RECEIVING PARTY DATA**

| Name:           | ELECTRONICS AND TELECOMMUNICATIONS RESEARCH INSTITUTE |  |  |
|-----------------|---|--|--|
| Street Address: | 161 GAJEONG-DONG, YUSEONG-GU                          |  |  |
| City:           | DAEJEON   |  |  |
| State/Country:  | KOREA, REPUBLIC OF                                    |  |  |

| Name:           | HIDEA SOLUTIONS CO., LTD                      |  |  |
|-----------------|---|--|--|
| Street Address: | 4F, DO&CAN HOUSE, 3, ACHASAN-RO, SEONGDONG-GU |  |  |
| City:           | SEOUL   |  |  |
| State/Country:  | KOREA, REPUBLIC OF                            |  |  |

| Name:           | KOOKMIN UNIVERSITY INDUSTRY ACADEMY COOPERATION FOUNDATION |  |  |
|-----------------|--|--|--|
| Street Address: | 861-1 JEONGNEUNG-DONG, SEONGBUK-GU                         |  |  |
| City:           | SEOUL  |  |  |
| State/Country:  | KOREA, REPUBLIC OF   |  |  |

#### PROPERTY NUMBERS Total: 1

| Property Type       | Number   |  |
|---------------------|----------|--|
| Application Number: | 14103436 |  |

**PATENT** 

**REEL: 031762 FRAME: 0050** 

#### **CORRESPONDENCE DATA**

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 (630)908-7653

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| ATTORNEY DOCKET NUMBER: | PA1508-0   |
|-------------------------|--|
| NAME OF SUBMITTER:      | WOOCHOON W. PARK   |
| Signature:              | /Woochoon W. Park/   |
| Date:                   | 12/11/2013   |
|                         | This document serves as an Oath/Declaration (37 CFR 1.63). |

#### Total Attachments: 9

source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page1.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page2.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page3.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page4.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page5.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page6.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page7.tif source=PA1508-0\_Declaration\_Assignment\_ETRI\_Hidea\_Kookmin#page8.tif

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PATENT REEL: 031762 FRAME: 0051

IP20121906\_무한

|             | APPARATUS AND METHOD FOR OFFERING BOUNDARY INFORMATION,   |  |  |
|-------------|---|--|--|
| Title of    |   |  |  |
| Invention   | AND APPARATUS AND METHOD FOR RECEIVING VIDEO  |  |  |
|             | As the below named inventor(s), I hereby declare that:  |  |  |
|             | The declaration is directed to:   |  |  |
|             | ☑ The attached application, or  |  |  |
|             | ☐ United States application or PCT international application number PCT/KR########## filed on   |  |  |
| Declaration | The above-identified application was made or authorized to be made by me.   |  |  |
|             | I believe that I am the original or an original joint inventor of a claimed invention in the application.   |  |  |
|             | I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years or both.  |  |  |
|             | NOW, THEREFORE, in consideration of the sum of one dollar (\$1), the receipt whereof is acknowledge, and other good and valuable consideration, I, by these presents do sell, assign and transfer unto said assignees   |  |  |
|             | Electronics and Telecommunications Research Institute   |  |  |
|             | 161 Gajeong-dong, Yuseong-gu, Daejeon 305-700, Republic of Korea  |  |  |
|             | 2. Hidea Solutions Co., Ltd   |  |  |
|             | 4F, Do&Can House, 3, Achasan-ro, Seongdong-gu, Seoul<br>133-924, Republic of Korea  |  |  |
|             | <ol> <li>Kookmin University Industry Academy Cooperation Foundation<br/>861-1 Jeongneung-dong, Seongbuk-gu, Seoul 136-702, Republic of Korea</li> </ol>   |  |  |
| Assignment  | and the heirs, successors, assigns and legal representatives of the assignee(s) the full and exclusive right to the said invention in the United States and in its territorial possessions and in any and all foreign countries any and all improvements thereof, the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee(s), of the entire right, title, and interest in and to the same, for his sole use and for the use of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. |  |  |
|             | I agree promptly upon request of the assignee(s), its heirs, successors, assigns and legal representatives of the assignee(s) to communicate any facts known to it respecting the patent and the invention set forth therein, and to execute and deliver without further compensation any power of attorney, Assignment, application, whether original, continuation, divisional or reissue, or other papers that may be necessary.   |  |  |
|             | I hereby covenant that no assignment, sale agreement or encumbrance has been or will be made or entered into which would conflict with this assignment and sale.  |  |  |
|             | I further covenant that assignee(s) will, upon its request, be provided promptly with all pertinent facts and documents relating to said invention and said Letters Patent and legal equivalents as may be known and accessible to me and will testify as to the same in any litigation related thereto and will promptly execute and deliver to assignee(s) or its legal representatives any and all papers, instruments or affidavits required to apply for, obtain, maintain, issue and enforce said application, said invention and said Letters Patent and said equivalents thereof which may be necessary or desirable to carry out the purposes thereof.   |  |  |

IP20121906 무한 Inventor Name (First Middle LAST): LEE, Joo Young Legal Name Inventor Signature: Of Inventor Nov 12, 2013 Date: Inventor Name (First Middle LAST): KIM, Sung Hoon Legal Name Of Joint Inventor Signature: Inventor, If Any Date: CHOO, Hyon Gon Inventor Name (First Middle LAST): Legal Name Of Joint Inventor Signature: Inventor, If Any Nov. 12. 2013 Date: Inventor Name (First Middle LAST): CHOI, Jin Soo Legal Name Of Joint Inventor Signature: Inventor, If Any Date: 2013 Inventor Name (First Middle LAST): KIM, Jin Woong Legal Name Of Joint Inventor Signature: Inventor, If Any Date: Inventor Name (First Middle LAST): HONG, Suk Jin Legal Name Of Joint Inventor Signature: Inventor, If Any Date: Inventor Name (First Middle LAST): KANG, Dong Wook Legal Name Of Joint Inventor Signature: Inventor, If Any Date:

| DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT |                   |               |
|--|-------------------|---------------|
| <br>   |                   | IP20121906 무한 |
| Inventor Name (First Middle LAST):   | JUNG, Kyeong Hoon |               |
| Inventor Signature:  |                   |               |
| Date:  |                   |               |

IP20121906\_무한

|             | APPARATUS AND METHOD FOR OFFERING BOUNDARY INFORMATION,   |  |  |
|-------------|---|--|--|
| Title of    |   |  |  |
| Invention   | AND APPARATUS AND METHOD FOR RECEIVING VIDEO  |  |  |
|             | As the below named inventor(s), I hereby declare that:  |  |  |
|             | The declaration is directed to:   |  |  |
|             | ☑ The attached application, or  |  |  |
|             | ☐ United States application or PCT international application number PCT/KR########## filed on   |  |  |
| Declaration | The above-identified application was made or authorized to be made by me.   |  |  |
|             | I believe that I am the original or an original joint inventor of a claimed invention in the application.   |  |  |
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|             | NOW, THEREFORE, in consideration of the sum of one dollar (\$1), the receipt whereof is acknowledge, and other good and valuable consideration, I, by these presents do sell, assign and transfer unto said assignees   |  |  |
|             | Electronics and Telecommunications Research Institute   |  |  |
|             | 161 Gajeong-dong, Yuseong-gu, Daejeon 305-700, Republic of Korea  |  |  |
|             | 2. Hidea Solutions Co., Ltd   |  |  |
|             | 4F, Do&Can House, 3, Achasan-ro, Seongdong-gu, Seoul<br>133-924, Republic of Korea  |  |  |
|             | <ol> <li>Kookmin University Industry Academy Cooperation Foundation<br/>861-1 Jeongneung-dong, Seongbuk-gu, Seoul 136-702, Republic of Korea</li> </ol>   |  |  |
| Assignment  | and the heirs, successors, assigns and legal representatives of the assignee(s) the full and exclusive right to the said invention in the United States and in its territorial possessions and in any and all foreign countries any and all improvements thereof, the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee(s), of the entire right, title, and interest in and to the same, for his sole use and for the use of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. |  |  |
|             | I agree promptly upon request of the assignee(s), its heirs, successors, assigns and legal representatives of the assignee(s) to communicate any facts known to it respecting the patent and the invention set forth therein, and to execute and deliver without further compensation any power of attorney, Assignment, application, whether original, continuation, divisional or reissue, or other papers that may be necessary.   |  |  |
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IP20121906 무한

|                           |                                    | 1P20121906                            |  |  |
|---------------------------|------------------------------------|---------------------------------------|--|--|
| Legal Name<br>Of Inventor | Inventor Name (First Middle LAST): | LEE, Joo Young                        |  |  |
|                           | Inventor Signature:                |                                       |  |  |
|                           | Date:                              |                                       |  |  |
|                           |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | KIM, Sung Hoon                        |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                |                                       |  |  |
| Any                       | Date:                              |                                       |  |  |
|                           |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | CHOO, Hyon Gon                        |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                |                                       |  |  |
| Any                       | Date:                              |                                       |  |  |
| ·····                     |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | CHOI, Jin Soo                         |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                |                                       |  |  |
| Any                       | Date:                              |                                       |  |  |
| ,                         |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | KIM, Jin Woong                        |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                |                                       |  |  |
| Any                       | Date:                              |                                       |  |  |
| F                         |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | HONG, Suk Jin                         |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                | 1-1                                   |  |  |
| Any                       | Date:                              | 2013,12,3                             |  |  |
|                           |                                    |                                       |  |  |
| Legal Name                | Inventor Name (First Middle LAST): | KANG, Dong Wook                       |  |  |
| Of Joint<br>Inventor, If  | Inventor Signature:                |                                       |  |  |
| Any                       | Date:                              | · · · · · · · · · · · · · · · · · · · |  |  |

|   | DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT |                   |               |  |
|---|--|-------------------|---------------|--|
| ( |  |                   | IP20121906 무한 |  |
|   | Inventor Name (First Middle LAST):   | JUNG, Kyeong Hoon |               |  |
|   | Inventor Signature:  |                   |               |  |
|   | Date:  |                   |               |  |

IP20121906\_무한

|             | A SDDA DA CELC A NIX NACCERON GOD OFFICE DATE DATE DATE IN A DAY ENGODAA A TEON   |  |  |
|-------------|---|--|--|
| Title of    | APPARATUS AND METHOD FOR OFFERING BOUNDARY INFORMATION,   |  |  |
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|             | As the below named inventor(s), I hereby declare that:  |  |  |
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| Declaration | ☐ United States application or PCT international application number PCT/KR########## filed on   |  |  |
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|             | <ol> <li>Kookmin University Industry Academy Cooperation Foundation<br/>861-1 Jeongneung-dong, Seongbuk-gu, Seoul 136-702, Republic of Korea</li> </ol>   |  |  |
| Assignment  | and the heirs, successors, assigns and legal representatives of the assignee(s) the full and exclusive right to the said invention in the United States and in its territorial possessions and in any and all foreign countries any and all improvements thereof, the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee(s), of the entire right, title, and interest in and to the same, for his sole use and for the use of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. |  |  |
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IP20121906 早並 Inventor Name (First Middle LAST): LEE, Joo Young Legal Name Inventor Signature: Of Inventor Date: Inventor Name (First Middle LAST): KIM, Sung Hoon Legal Name triiol. 10 Inventor Signature: inventor, if Any Date: Inventor Name (First Middle LAST): CHOO, Hyon Gon Legal Name Of Joint Inventor Signature: inventor, ii Any Date: Inventor Name (First Middle LAST): CHOI, Jin Soo Legal Name Of Joint Inventor Signature: Inventor, If Any Date: Inventor Name (First Middle LAST): KIM, Jin Woong Legal Name Of Joint Inventor Signature: inventor, if Any Date: Inventor Name (First Middle LAST): HONG, Suk Jin Legal Name Of Joint Inventor Signature: Inventor, If Any Date: Inventor Name (First Middle LAST): KANG, Dong Wook Legal Name Of Joint Inventor Signature: Inventor, If Any 20/3. Date:

|  | DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76) AND ASSIGNMENT |                       |  |
|--|--|-----------------------|--|
|  |  | IP20121906 <u></u> 무한 |  |
|  | Inventor Name (First Middle LAST):   | JUNG, Kyeong Hoan     |  |
|  | Inventor Signature:  | 0000                  |  |
|  | Date:  | 2013/1/20             |  |