**PATENT ASSIGNMENT**

Electronic Version v1.1  
Stylesheet Version v1.1

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### CONVEYING PARTY DATA

<table>
<thead>
<tr>
<th>Name</th>
<th>Execution Date</th>
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<tbody>
<tr>
<td>Jin-Bae PARK</td>
<td>02/14/2005</td>
</tr>
<tr>
<td>Yong-June SHIN</td>
<td>02/08/2005</td>
</tr>
<tr>
<td>Jong-Gwan YOOK</td>
<td>02/14/2005</td>
</tr>
<tr>
<td>Eun-Seok SONG</td>
<td>02/18/2005</td>
</tr>
<tr>
<td>Joo-Won KIM</td>
<td>02/18/2005</td>
</tr>
<tr>
<td>Tok-Son CHOE</td>
<td>02/22/2005</td>
</tr>
<tr>
<td>Seung-Hoon SUNG</td>
<td>02/10/2005</td>
</tr>
</tbody>
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### RECEIVING PARTY DATA

Name: Jin-Bae PARK  
Street Address: 106-2304, Ilishin Kunyoung Apt., 198, Tanhyeon-dong, Ilsan-gu,  
City: Goyang-si, Gyeonggi-do  
State/Country: REPUBLIC OF KOREA  
Postal Code: 411-320  

Name: Yong-June SHIN  
Street Address: 2-907, Daegyo Apts., Yeouido-dong, Yeongdeungpo-gu,  
City: Seoul  
State/Country: REPUBLIC OF KOREA  
Postal Code: 150-010

### PROPERTY NUMBERS Total: 1

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<td>Application Number:</td>
<td>10519414</td>
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### CORRESPONDENCE DATA

Fax Number: (703)413-2220  
*Correspondence will be sent via US Mail when the fax attempt is unsuccessful.*
<table>
<thead>
<tr>
<th>Phone:</th>
<th>(703) 413-3000</th>
</tr>
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<tbody>
<tr>
<td>Email:</td>
<td><a href="mailto:vhodzic@oblon.com">vhodzic@oblon.com</a></td>
</tr>
<tr>
<td>Correspondent Name:</td>
<td>Oblon, Spivak, et al.</td>
</tr>
<tr>
<td>Address Line 1:</td>
<td>1940 Duke Street</td>
</tr>
<tr>
<td>Address Line 4:</td>
<td>Alexandria, VIRGINIA 22314</td>
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<tr>
<td>NAME OF SUBMITTER:</td>
<td>Valentina Hodzic</td>
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Assignment of Application

WHEREAS, I (WE) (1) Jin-Bae PARK of: 106-2304, Ilshin Kunyoung Apt., 198, Tanhyeon-dong, Iisan-gu, Goyang-si, Gyeonggi-do 411-320, South Korea

(2) Yong-June SHIN of: 2-907, Daegyo Apts., Yeouido-dong, Yeongdeungpo-gu, Seoul 150-010, South Korea

(3) Jong-Gwan YOOK of: 107-1602, Samsung-Reverhill Apt., 6, Sancheon-dong, Yongsan-gu, Seoul 140-040, South Korea

(4) Edward J. POWERS of: Department of Electrical and Computer Engineering, Engineering Science Bldg., Room 439, The University of Texas at Austin, Austin, Texas 78712-1084, United States of America

(5) Eun-Seok SONG of: 662-105, Bongcheon 1-dong, Gwanak-gu, Seoul 151-051, South Korea

(6) Joo-Won KIM of: 8-405, Baekjo Apts., 378, Namgajwa 1-dong, Seodaemun-gu, Seoul 120-121, South Korea

(7) Tok-Son CHOE of: 44-20, Maam-ri, Okcheon-eup, Okcheon-gun, Chungcheongbuk-do 373-808, South Korea

(8) Seung-Hoon SUNG of: 102, 235-1, Yeonhui 3-dong, Seodaemun-gu, Seoul 120-113, South Korea

have invented certain new and useful improvements in: TIME-FREQUENCY DOMAIN REFLECTOMETRY APPARATUS AND METHOD

(Application No. 10/519,414, filed August 10, 2005), and

WHEREAS, Jin-Bae PARK & Yong-June SHIN

(hereinafter referred to as “ASSIGNEES”) having places of business at: 106-2304, Ilshin Kunyoung Apt., 198, Tanhyeon-dong, Iisan-gu, Goyang-si, Gyeonggi-do 411-320, South Korea & 2-907, Daegyo Apts., Yeouido-dong, Yeongdeungpo-gu, Seoul 150-010, South Korea, respectively are desirous of jointly acquiring interests in the entire right, title and interest in and to said invention and in and to any Letters Patent that may be granted therefore in the United States and its territorial possessions and in any and all foreign countries;

NOW, THEREFORE, in consideration of the sum of FIVE DOLLARS ($5.00), the receipt whereof is hereby acknowledged, and for other good and valuable consideration, I (WE), by these presents do sell, assign and transfer unto said ASSIGNEES, the full and exclusive right to the said invention in the United States and its territorial possessions and in all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all divisions, reissues, continuations, substitutions and renewals thereof.

I (WE) hereby authorize and request the Patent Office Officials in the United States and its territorial possessions and any and all foreign countries to issue any and all of said Letters Patent, when granted, to said ASSIGNEES as the assignees of my (our) entire right, title and interest in and to the same, for the sole use and behoof of said ASSIGNEES, their successors and assigns, to the full end of the term for which said Letters Patent may be granted, as fully and entirely as the same would have been held by me (us) had this Assignment and sale not been made.
Further, I (WE) agree that I (WE) will communicate to said ASSIGNEES or their representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letter Patent to be issued to said ASSIGNEES, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEES, their successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

The undersigned hereby grant(s) the firm of Oblon, Spivak, McClelland, Maier & Neustadt, P.C. of 1940 Duke Street, Alexandria, Virginia 22314 the power to insert on this assignment any further identification, including the application number and filing date, which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

Date: 02/14/05  
(Signature of Inventor) Jin-Bae PARK

Date: 02/03/05  
(Signature of Inventor) Yong-June SHIN

Date: 02/14/05  
(Signature of Inventor) Jong-Gwan YOOK

Date: 02/18/05  
(Signature of Inventor) Edward J. POWERS

Date: 02/18/05  
(Signature of Inventor) Eun-Seok SONG

Date: 02/22/05  
(Signature of Inventor) Joo-Won KIM

Date: 02/22/05  
(Signature of Inventor) ChoE

Date: 02/22/05  
(Signature of Inventor) Tok-Son CHOE

Date: 02/22/05  
(Signature of Inventor) Seung-Hoon SUNG

OBLON, SPIVAK, McCLELLAND, MAIER & NEUSTADT, P.C.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314
Further, I (WE) agree that I (WE) will communicate to said ASSIGNEES or their representatives any facts known to me (us) respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute, renewal and reissue applications, execute all necessary assignment papers to cause any and all of said Letter Patent to be issued to said ASSIGNEES, make all rightful oaths, and, generally do everything possible to aid said ASSIGNEES, their successors and assigns, to obtain and enforce proper protection for said invention in the United States and its territorial possessions and in any and all foreign countries.

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Date: 

(Signature of Inventor) Jin-Bae PARK

Date:

(Signature of Inventor) Yong-June SHIN

Date:

(Signature of Inventor) Jong-Gwan YOOK

Date:

(Signature of Inventor) Edward J. POWERS

Date:

(Signature of Inventor) Eun-Seok SONG

Date:

(Signature of Inventor) Joo-Won KIM

Date:

(Signature of Inventor) Tok-Son CHOE

Date: **Feb 10, 2005**

(Signature of Inventor) Seung-Hoon SUNG

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
ATTORNEYS AT LAW
1940 DUKE STREET
ALEXANDRIA, VIRGINIA 22314

12/04

RECORDED: 12/17/2007

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