505123443 10/03/2018

EPAS ID: PAT5170204

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

SUBMISSION TYPE:NEW ASSIGNMENTNATURE OF CONVEYANCE:ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| James June-Ming Wang | 09/17/2018 |
| Jianhan Liu | 09/17/2018 |
| Thomas Edward Pare Jr. | 09/17/2018 |
| Tianyu Wu | 09/17/2018 |
| Gabor Bajko | 09/17/2018 |
| Yung-Ping Hsu | 09/18/2018 |

RECEIVING PARTY DATA

| Name: | MEDIATEK INC. |
|-----------------|--|
| Street Address: | No. 1, Dusing Rd. 1st, Science-Based Industrial Park |
| City: | Hsin-Chu |
| State/Country: | TAIWAN |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15121044 |

CORRESPONDENCE DATA

Fax Number: (703)997-4517

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Correspondent Name: WINSTON HSU

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Address Line 4: NEW TAIPEI CITY, TAIWAN

ATTORNEY DOCKET NUMBER: MTKP2277USA

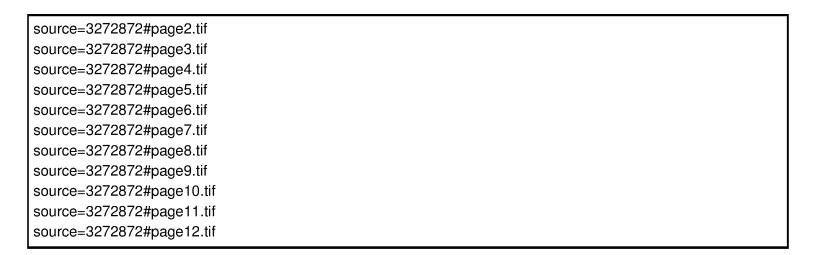
NAME OF SUBMITTER: SIBYL YU

SIGNATURE: /SIBYL YU/

DATE SIGNED: 10/03/2018

Total Attachments: 12 source=3272872#page1.tif

PATENT 505123443 REEL: 047043 FRAME: 0304



Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby deck This declaration is directed to: | are that: | | |
|---|--|--|----------|
| ☐ The attached application, or | | | |
| ☑ United States application number | 15/121,044 | filed on 08/24/2016 | , or |
| ☐ PCT international application numb | oer | filed on | |
| The above-identified application was made | or authorized to be made I | by me. | |
| I believe that I am the original inventor or an application. | original joint inventor of a | claimed invention in the | |
| I hereby acknowledge that any willful false s under18 U.S.C. 1001 by fine or imprisonment | | | |
| In consideration of the payment by MEDI | ATEK INC. | having a postal add | dress of |
| No. 1, Dusing Rd. 1st, Science-Base | ed Industrial Park, Hs | in-Chu 300, Taiwan, R.0 | o.c. |
| (referred to as "ASSIGNEE"below) to I of the acknowledged, andfor other good and valua | e sum of One Dollar (\$ 1.0 ble consideration. | 0), the receipt of which is he | ereby |
| I hereby sell, assign and transfer to ASSIGN the entire right, title and interest in and to an invention as above-identified application and invention by the above application or any co substitutes, or extensions thereof, and as to | y and all improvements wi d, in and to, all Letters Pate ntinuations, continuation-i | hich are disclosed in the ent to be obtained for said n-part, divisions, renewals, | IEE |
| 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; | | | |
| I further covenant that ASSIGNEE 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 I and will testify as to the same in any interference, litigation proceeding related thereto and will promptly execute and deliver to ASSIGNEE or its legal | | | |
| representatives any and all papers, instrume maintain, issue and enforce said application equivalents thereof which may be necessary IN WITNESS WHEREOF, I have hereunto s | , said invention and said L , or desirable to carry out t | etters Patent and said the proposes thereof. | |
| Note: An application data sheet (PTO/SB/14 inventive entity, must accompany this form. | or equivalent), including on equivalent), including on the control of the control | naming the entire ditional inventor. | |

Page 1 of 12

| LEGAL NA | ME OF INVENTOR(ABBIGNOR) | | A 147 10040 |
|------------|--------------------------|----------|-------------|
| inventor. | James June-Ming Wang | Date: | 9/17/2018 |
| 8(gnabure: | | fno-thay | |

Page 2 of 12

NEOMATE-P2277-RSA.O CLESTAMUSI-14-043PCT-US F#N#*O-P0002E-US 1201 D6586-1859.0021782

Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby dec This declaration is directed to: | slare that: | | |
|--|---|---|----------|
| ☐ The attached application, or | | | |
| ☑ United States application number | 15/121,044 | filed on 08/24/2016 | , or |
| ☐ PCT international application num | ber | filed on | |
| The above-identified application was made | or authorized to be made | b y me . | |
| I believe that I am the original inventor or a application. | n original joint inventor of a | a claimed invention in the | |
| I hereby acknowledge that any willful false under18 U.S.C. 1001 by fine or imprisonment | statement made in this decent of not more than five (5 | claration is punishable) years, or both. | |
| In consideration of the payment by MED | IATEK INC. | having a postal add | iress of |
| No. 1, Dusing Rd. 1st, Science-Bas | ed Industrial Park, Hs | sin-Chu 300, Taiwan, R. | O.C. |
| (referred to as "ASSIGNEE"below) to I of the acknowledged, and for other good and value | | 00), the receipt of which is he | ereby |
| I hereby sell, assign and transfer to ASSIG the entire right, title and interest in and to a invention as above-identified application ar invention by the above application or any c substitutes, or extensions thereof, and as t | ny and all improvements wind, in and to, all Letters Par ontinuations, continuation- | which are disclosed in the tent to be obtained for said in-part, divisions, renewals, | |
| I hereby covenant that no assignment, sale entered into which would conflict with this a | | nce has been or will be made | or or |
| I further covenant that ASSIGNEE will, upon and documents relating to said invention as known and accessible to I and will testify as related thereto and will promptly execute a | nd said Letters Patent and s to the same in any interfe | legal equivalents as may be erence, litigation proceeding | |
| representatives any and all papers, instrummaintain, issue and enforce said applicatio equivalents thereof which may be necessa IN WITNESS WHEREOF, I have hereunto | n, said invention and said I ry or desirable to carry out | Letters Patent and said the proposes thereof. | |
| Note: An application data sheet (PTO/SB/1 inventive entity, must accompany this form | | | |

Page 3 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor: Jianhan Liu

Date:

09/17/2018

Signature:

Page 4 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US F#NPO-P0002E-US1201 DSB0-105U023782

Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby declaration is directed to: | are that: | | |
|--|---|--|--|
| ☐ The attached application, or | | | |
| ☑ United States application number | 15/121,044 | filed on _08/24/2016, or | |
| ☐ PCT international application numb | er | filed on | |
| The above-identified application was made of | or authorized to be made | e by me. | |
| I believe that I am the original inventor or an application. | original joint inventor of | a claimed invention in the | |
| I hereby acknowledge that any willful false sunder18 U.S.C. 1001 by fine or imprisonment | tatement made in this do nt of not more than five (| eclaration is punishable 5) years, or both. | |
| In consideration of the payment by MEDIA | ATEK INC. | having a postal address of | |
| No. 1, Dusing Rd. 1st, Science-Base | ed Industrial Park, H | sin-Chu 300, Taiwan, R.O.C. | |
| (referred to as "ASSIGNEE"below) to I of the acknowledged, andfor other good and valual | e sum of One Dollar (\$ 1 ble consideration. | .00), the receipt of which is hereby | |
| I hereby sell, assign and transfer to ASSIGN the entire right, title and interest in and to an invention as above-identified application and invention by the above application or any coustitutes, or extensions thereof, and as to | y and all improvements l, in and to, all Letters Pa ntinuations, continuation | which are disclosed in the atent to be obtained for said n-in-part, divisions, renewals, | |
| I hereby covenant that no assignment, sale, entered into which would conflict with this as | agreement or encumbra signment; | ınce has been or will be made or | |
| I further covenant that ASSIGNEE will, upon and documents relating to said invention and known and accessible to I and will testify as related thereto and will promptly execute and | d said Letters Patent and to the same in any inter | d legal equivalents as may be ference, litigation proceeding | |
| representatives any and all papers, instrume maintain, issue and enforce said application, equivalents thereof which may be necessary IN WITNESS WHEREOF, I have hereunto s | said invention and said or desirable to carry ou | Letters Patent and said the proposes thereof. | |
| Note: An application data sheet (PTO/SB/14 | | | |

Page 5 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

LEGAL NAME OF INVENTOR(ASSIGNOR)

Inventor:

Thomas Edward Pare Jr.

Date:

Signature:

Page

Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby de This declaration is directed to: | eclare that: | | | |
|---|--|--|---|-----------|
| ☐ The attached application, or | | | | |
| ☑ United States application number | r <u>15/121,044</u> | filed on | 08/24/2016 | , or |
| ☐ PCT international application nur | mber | filed | on | |
| The above-identified application was mad | le or authorized to be | e made by me. | | |
| l believe that I am the original inventor or application. | an original joint inve | ntor of a claimed in | vention in the | |
| I hereby acknowledge that any willful false under18 U.S.C. 1001 by fine or imprisonm | e statement made in nent of not more that | this declaration is n five (5) years, or | punishable both. | |
| In consideration of the payment by MEI | DIATEK INC. | h | aving a postal a | ddress of |
| No. 1, Dusing Rd. 1st, Science-Ba | sed Industrial Pa | ark, Hsin-Chu 3 | 00, Taiwan, F | ₹.O.C. |
| (referred to as "ASSIGNEE"below) to I of a acknowledged, andfor other good and val | the sum of One Doll uable consideration. | ar (\$ 1.00), the rec | eipt of which is | hereby |
| I hereby sell, assign and transfer to ASSIC the entire right, title and interest in and to invention as above-identified application a invention by the above application or any substitutes, or extensions thereof, and as | any and all improver and, in and to, all Let continuations. contir | ments which are di ters Patent to be o nuation-in-part, divi | sclosed in the btained for said sions, renewals | |
| I hereby covenant that no assignment, sal entered into which would conflict with this | le, agreement or end assignment; | cumbrance has bee | en or will be ma | ro et |
| I further covenant that ASSIGNEE will, up and documents relating to said invention a known and accessible to I and will testify a related thereto and will promptly execute a | and said Letters Pate as to the same in an | ent and legal equiv v interference, litig | alents as may h | ne e |
| representatives any and all papers, instrui maintain, issue and enforce said applicatio equivalents thereof which may be necessa IN WITNESS WHEREOF, I have hereunto | on, said invention an ary or desirable to ca | d said Letters Pate | ent and said es thereof | |
| Note: An application data sheet (PTO/SB/inventive entity, must accompany this form | 14 or equivalent), ind n. Use this form for <u>e</u> | cluding naming the | e entire entor. | |

Page 7 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

| LEGAL NA | ME OF INVENTOR(ASSIGNOR) | | |
|------------|--------------------------|-------|------------|
| Inventor: | Tianyu Wu | Date: | 09/17/2018 |
| Signature: | Trange Wu | | |

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NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US F#NPO-P0002E-US1201 DSB0-105U023782

Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby declare that: This declaration is directed to: |
|---|
| ☐ The attached application, or |
| ☑ United States application number 15/121,044 filed on 08/24/2016 , or |
| □ PCT international application number filed on |
| The above-identified application was made or authorized to be made by me. |
| I believe that I am the original inventor 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 under18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. |
| In consideration of the payment by MEDIATEK INC. having a postal address of |
| No. 1, Dusing Rd. 1st, Science-Based Industrial Park, Hsin-Chu 300, Taiwan, R.O.C. |
| (referred to as "ASSIGNEE"below) to I of the sum of One Dollar (\$ 1.00), the receipt of which is hereby acknowledged, and for other good and valuable consideration. |
| I hereby sell, assign and transfer to ASSIGNEE and the successors and assignees of the ASSIGNEE the entire right, title and interest in and to any and all improvements which are disclosed in the invention as above-identified application and, in and to, all Letters Patent to be obtained for said invention by the above application or any continuations, continuation-in-part, divisions, renewals, substitutes, or extensions thereof, and as to Letters Patent any reissue or re-examination thereof. |
| 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; |
| I further covenant that ASSIGNEE 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 I and will testify as to the same in any interference, litigation proceeding related thereto and will promptly execute and deliver to ASSIGNEE 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 proposes thereof. IN WITNESS WHEREOF, I have hereunto set hand and seal this on the date(s) indicated. |
| Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventor inventor. |

Page 9 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

LEGAL NAME OF INVENTOR (ASSIGNOR)

Inventor:

Gabor Bajko

Date:

Signature:

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US Page 10 of 12

F#NPO-P0002E-US1201 DSB0-105U023782

Title of Invention:

DIRECTION FINDING POSITIONING IN WIRELESS LOCAL AREA NETWORKS

| As the below named inventor, I hereby of This declaration is directed to: | declare that: | | |
|--|---|---|-----------|
| ☐ The attached application, or | | | |
| ☑ United States application numb | er <u>15/121,044</u> | filed on 08/24/2016 | _, or |
| ☐ PCT international application no | umber | filed on | |
| The above-identified application was ma | ade or authorized to be | made by me. | |
| I believe that I am the original inventor of application. | or an original joint inven | ntor of a claimed invention in the | |
| I hereby acknowledge that any willful fall under18 U.S.C. 1001 by fine or imprisor | | | |
| In consideration of the payment by MI | EDIATEK INC. | having a postal a | ddress of |
| No. 1, Dusing Rd. 1st, Science-B | Based Industrial Pa | rk, Hsin-Chu 300, Taiwan, F | ₹.O.C. |
| (referred to as "ASSIGNEE" below) to I of acknowledged, and for other good and v | of the sum of One Dolla aluable consideration. | r (\$ 1.00), the receipt of which is | hereby |
| I hereby sell, assign and transfer to ASS the entire right, title and interest in and t invention as above-identified application invention by the above application or an substitutes, or extensions thereof, and a | o any and all improven and, in and to, all Lett y continuations, contin | nents which are disclosed in the ers Patent to be obtained for said uation-in-part, divisions, renewals | ·, |
| I hereby covenant that no assignment, s entered into which would conflict with th | | umbrance has been or will be mad | de or |
| I further covenant that ASSIGNEE will, used documents relating to said invention known and accessible to I and will testify related thereto and will promptly execution. | n and said Letters Pate y as to the same in any | nt and legal equivalents as may be interference, litigation proceeding | e |
| representatives any and all papers, instrumaintain, issue and enforce said applicate equivalents thereof which may be necessary IN WITNESS WHEREOF, I have hereur | ation, said invention and ssary or desirable to ca | d said Letters Patent and said rry out the proposes thereof. | |
| Note: An application data sheet (PTO/S inventive entity, must accompany this fo | | | |

Page 11 of 12

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

LEGAL NAME OF INVENTOR(ASSIGNOR)

inventor:

Yung-Ping Hsu

Date:

Sept.18, 18

Signature:

Page 12 of 12

F#NPO-P0002E-US1201 DSB0-105U023782

NPO#MTK-P2277-USA:0 CUST#MUSI-14-043PCT-US

RECORDED: 10/03/2018