11/26/2018 505205142

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT5251910

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------|----------------|
| HAN-KUANG CHANG | 08/02/2016 |
| YK HSIEH | 07/29/2016 |
| CHUNG-CHUN CHEN | 08/01/2016 |
| MARK FENG | 07/29/2016 |
| DAVID HSIEH | 08/01/2016 |
| MING-SHIEN TSAI | 07/29/2016 |

RECEIVING PARTY DATA

| Name: | HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P. |
|-----------------|---|
| Street Address: | 11445 COMPAQ CENTER DRIVE WEST |
| City: | HOUSTON |
| State/Country: | TEXAS |
| Postal Code: | 77070 |

PROPERTY NUMBERS Total: 1

| Property Type | Number | |
|---------------------|----------|--|
| Application Number: | 16094689 | |

CORRESPONDENCE DATA

Fax Number: (970)778-4063

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: (541)715-8443 ipa.mail@hp.com Email:

HP INC. **Correspondent Name:**

Address Line 1: 3390 E. HARMONY ROAD MS 35 Address Line 2: INTELLECTUAL PROPERTY

Address Line 4: FORT COLLINS, COLORADO 80528

| ATTORNEY DOCKET NUMBER: | 85023261 |
|-------------------------|------------------|
| NAME OF SUBMITTER: | DEBBIE BORLAND |
| SIGNATURE: | /Debbie Borland/ |
| DATE SIGNED: | 11/26/2018 |

PATENT REEL: 047585 FRAME: 0387 505205142

Total Attachments: 6 source=85023261 Assignment#page1.tif source=85023261 Assignment#page2.tif source=85023261 Assignment#page3.tif source=85023261 Assignment#page4.tif source=85023261 Assignment#page5.tif source=85023261 Assignment#page5.tif

PATENT REEL: 047585 FRAME: 0388 HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership

| title, and interes | t, including all rights o | | • | rs, and its assigns, my entire right, t entitled (English-language title in |
|---|---|--|--|--|
| WIRELESS CH | ARGING | | | |
| Filing Date: | Oct 18, 2018 | Application No.: _ | 16/094689 | Patent Office: US ; |
| herein apatent redesign rights, are country or region patent, any and said Inventions, indirectly claims of, divisional apparapplication for page on or as a result | efers to any form of intel and utility model rights) a or under any internation all applications for pater any and all application priority or benefit, and a plications of, national-phatent for any of said Inv | lectual property protection incli (hereinafter "Inventions"); any onal agreement for any of said at directly or indirectly claiming is for patent from which any a any and all continuation applica- nase applications of, regional- entions) (hereinafter "Applicati Patent (hereinafter "Patents") | uding, without limitation, and all existing and fu Inventions (including, w priority to or benefit of application for patent fo attions of, continuation-in phase applications of, r ons for Patent"); any an | is said application for patent (as used invention rights, utility patent rights, uture applications for patent of any rithout limitation, said application for any application for patent for any of rany of said Inventions directly or part applications (hereinafter CIPs) enewals of, and substitutes for any all patents which may be granted les, reexaminations, and extensions |
| | and interest herein assi | • | — | all international agreements to the dividence and agreement in |
| Applications for authorize HPDC | Patent in its name or i , its successors, its as | n my name in any country or ssigns, its nominees, and its | region or under any ir legal representatives t | legal representatives to file said nternational agreement, and further o insert the filing date, application title set forth above, when known to |
| duty it is to issue | patents, to issue to Hi | | - | all international agreements whose entire right, title, and interest, said |
| such papers as HPDC, its succe- all known facts r and sign all law applications) rela generally to do e maintain, and en and Patents, pro | may be necessary or | desirable to perfect the title in mmunicate to HPDC, its succe as, Applications for Patent, and without limitation, divisional a Applications for Patent, and d HPDC, its successors, its as a benefit, proper intellectual pro | n said Inventions, Appli ssors, its assigns, its no d Patents; testify in any applications, continuation Patents; and make all ssigns, its nominees, and operty protection for said | undue delay, execute and deliver all ications for Patent, and Patents, to ominees, or its legal representatives, legal or administrative proceedings on applications, CIPs, and reissue rightful oaths and declarations and dits legal representatives to obtain, Inventions, Applications for Patent, and assistance are paid by HPDC, |
| IN WITNES | S WHEREOF, I hereun | to set my hand and seal: | 2 Aug | usst 2016 |
| Inventor's Signal | 1 / | 7 | Day Month | Year |
| Han-Kuang C Given (First and I | | nily Name | | |

PATENT APPLICATION

HP Inc. 3390 E, Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

| RECORD | 10: | 8449 | 9156 | . |
|--------|-----|------|------|----------|
| | | | | |

ASSIGNMENT OF PATENT APPLICATION

| transfer and her having its princ title, and intere | reby assign ipal place st, includin | and transfer to of business in g all rights of | uable consideration, the representation is represented to the phonon of | VÉLOPME er "HPDC") | NT COMPANY, L , its successors, | .P., a Texas Limited and its assigns, my | Partnership entire right, |
|---|---|--|---|---|--|--|---|
| WIRELESS CI | | | | | | | |
| Filing Date: | Oct 18 | , 2018 | Application No.: | 16/09 | 94689 | Patent Offi | ce: <u>US</u> |
| herein "patent" r design rights, a country or regio patent, any and said Inventions, indirectly claims of, divisional ap application for p | efers to an nd utility in n or under all applical any and a priority or plications of atent for ai t of said Ap | y form of intelle nodel rights) (I any internation ions for patent sill applications benefit, and an of, national-pha ny of said inve- oplications for I | ventions, improvements, a citual property protection in the reinafter "inventions"); all agreement for any of sa directly or indirectly claims for patent from which any y and all continuation applies applications of, regions aftions) (hereinafter "Patents ents. | cluding, with ny and all a id Invention ng priority to application cations of, o il-phase applications for Pa | nout limitation, investing and futures (including, without or benefit of any for patent for a continuation-in-padilications of, reneatent"); any and a | rention rights, utility p e applications for pa out limitation, said ap r application for pater my of said Inventions rt applications (hereil twals of, and substitutil the patents which may | atent rights, stent of any oplication for nt for any of s directly or nafter CIPs) utes for any be granted |
| | and intere | | ny full rights in all countrie ned and transferred, and th | | | | |
| Applications for authorize HPDC | Patent in | its name or in essors, its ass | its successors, its assign my name in any country igns, its nominees, and it ion for patent, now identifie | or region or s legal repr | under any inter resentatives to in | national agreement, isert the filing date. | and further application |
| duty it is to issue | e patente, i | o issue to HP£ | st the officials of all countri IC, its successors, or its a its assignment and transfer | ssigns, es a | ns and under all ssignee of my er | international agreem tire right, title, and in | ents whose terest, said |
| such papers as HPDC, its succe all known facts r and sign all lav applications) reli- generally to do a maintain, and en and Patents, pro | may be no ssore, or its especting of the papers ating to sale exerything; force, for it vided the se | ecessary or de eassigns; comi said inventions (including, wild d inventions, / cossible to aid e or their own to expenses which | that I will, each time a requisirable to perfect the title municate to HPDC, its succ., Applications for Patent, a lithout limitation, divisional Applications for Patent, an HPDC, its successors, its senefit, proper intellectual permay be incurred by me in rits legal representatives. | in said Invicessors, its and Patents: application Patents; assigns, its application | antions, Applicati assigns, its nomin testify in any leg s, continuation a and make all righ nominees, and its ection for said inv | ons for Patent, and sees, or its legal repre- al or administrative papplications, CIPs, a aful caths and declar legal representative rentions, Applications | Patents, to assentatives, proceedings and reissue rations and s to obtain, for Patent, |
| IN WITNES | S WHERE | OF, I hereunto | set my hand and seal: 7 **L | 2 9 | Tu ly | zol | 5 |
| Inventor's Signal | ure | anno e la | | Day | Month | Year | Austra |
| YK Hsieh | | | | | | | |
| Given (First and) | /iddie) Nan | e(s) Famili | / Name | | | | |

| P | ΔΤ | FI | ŬΤ | ΑF | PL | IC. | ΔΤ | n | N |
|---|----|----|----|----|----|-----|----|---|---|
| | | | | | | | | | |

| RECORD | ID: | 84499 | 1 | 56 | |
|--------|-----|-------|---|----|--|
| | | | | | |

ASSIGNMENT OF PATENT APPLICATION

| I, the undersigned, for good and valuable consideration, the retransfer and hereby assign and transfer to HEWLETT-PACKARD DI having its principal place of business in Houston, Texas, (hereinaftitle, and interest, including all rights of priority, in, to, and under parentheses if said application for patent is in another language): | EVELOPME ter "HPDC") | NT COMPANY, L.P . its successors. an | ., a Texas Limited Partnership d its assigns, my entire right |
|---|--|--|---|
| WIRELESS CHARGING | | | |
| Filing Date: Oct 18, 2018 Application No.: | 16/09 | 4689 | Patent Office: US |
| the subject matter, including any and all inventions, improvements, a herein "patent" refers to any form of intellectual property protection in design rights, and utility model rights) (hereinafter "inventions"); a country or region or under any international agreement for any of sa patent, any and all applications for patent directly or indirectly claims said Inventions, any and all applications for patent from which any indirectly claims priority or benefit, and any and all continuation applications of, divisional applications of, national-phase applications of, regions application for patent for any of said Inventions) (hereinafter "Application or as a result of said Applications for Patent (hereinafter "Patents of said Applications for Patent or said Patents. | ncluding, with ny and all e aid inventions ng priority to y application ications of, o al-phase app ations for Pa | nout limitation, inventions and future as including, without to or benefit of any and for patent for any continuation-in-part ablications of, renewatent"); any and all to a second continuation and all to a second continuations of, renewatent"); any and all to a second continuations of, renewatent"); any and all to a second continuations of, renewatent"); any and all to a second continuations of, renewatent"); any and all to a second continuations of the second continuations of the second continuation and continuations of the second continuation and continuations of the second continuation and c | tion rights, utility patent rights applications for patent of an limitation, said application for pplication for patent for any coof said inventions directly of said inventions directly of applications (hereinafter CIPs als of, and substitutes for any patents which may be granted. |
| I HEREBY represent that I convey my full rights in all countrie entire right, title, and interest herein assigned and transferred, and the conflict herewith; | es and regio nat I have no | ns and under all in it executed and will | ternational agreements to the not execute any agreement in |
| AND I HEREBY authorize HPDC, its successors, its assign Applications for Patent in its name or in my name in any country authorize HPDC, its successors, its assigns, its nominees, and it number, and patent office of said application for patent, now identification; | or region or is legal repr | r under any internat resentatives to inse | tional agreement, and furthe |
| AND I HEREBY authorize and request the officials of all countri duty it is to issue patents, to issue to HPDC, its successors, or its a Patents, in accordance with the terms of this assignment and transfel | ssigns, as a | ons and under all int ssignee of my entire | ernational agreements whose ∍ right, title, and interest, saic |
| AND I HEREBY covenant and agree that I will, each time a requision papers as may be necessary or desirable to perfect the title HPDC, its successors, or its assigns; communicate to HPDC, its succeall known facts respecting said Inventions, Applications for Patent, and sign all lawful papers (including, without limitation, divisional applications) relating to said Inventions, Applications for Patent, and generally to do everything possible to aid HPDC, its successors, its amaintain, and enforce, for its or their own benefit, proper intellectual pand Patents, provided the expenses which may be incurred by me in its successors, its assigns, its nominees, or its legal representatives. | in said Invocessors, its a and Patents; application d Patents; a assigns, its a property prote | entions, Applications assigns, its nominee testify in any legal s, continuation app and make all rightfu nominees, and its le ection for said Inven | s for Patent, and Patents, to s, or its legal representatives, or administrative proceedings dications, CIPs, and reissue doaths and declarations and gal representatives to obtain, tions. Applications for Patent |
| IN WITNESS WHEREOF, I hereunto set my hand and seal: | | | |
| Chunj-chun, chen | | Aus. | 20/6 |
| Inventor's Signature | Day | Month | Year |
| Chung-Chun Chen | | | |
| Given (First and Middle) Name(s) Family Name | | | |

| PAT | FNT | APPI | ICAT | TON |
|-----|-----|------|------|-----|
| | | | | |

| RECORD | ID: | 844991 | 156 |
|--------|-----|--------|-----|
| | | | |

ASSIGNMENT OF PATENT APPLICATION

I, the undersigned, for good and valuable consideration, the receipt of which is hereby acknowledged, agree to assign and transfer and hereby assign and transfer to HEWLETT-PACKARD DEVELOPMENT COMPANY, L.P., a Texas Limited Partnership having its principal place of business in Houston, Texas, (hereinafter "HPDC"), its successors, and its assigns, my entire right, title, and interest, including all rights of priority, in, to, and under an application for patent entitled (English-language title in parentheses if said application for patent is in another language):

| title, and interest, including all rights of priority parentheses if said application for patent is in an | /, in, to, and under a other language): | n applicati | on for patent | entitled (English-language title in |
|--|---|--|---|---|
| WIRELESS CHARGING | | | | |
| Filing Date: Oct 18 2018 | Application No.: | 16/094 | 4689 | Patent Office: US ; |
| the subject matter, including any and all invention herein "patent" refers to any form of intellectual processing rights, and utility model rights) (hereinal country or region or under any international agree patent, any and all applications for patent directly said Inventions, any and all applications for patinizedly claims priority or benefit, and any and a of, divisional applications of, national-phase application for patent for any of said Inventions) on or as a result of said Applications for Patent (of said Applications for Patents. | roperty protection incluiter "Inventions"); any ement for any of said y or indirectly claiming tent from which any a all continuation applicatifications of, regional-p (hereinafter "Applicaticatications) | iding, withous and all explorations priority to pplication tions of, contact applications for Patiens for Patiens for Patiens for Patiens applications for Patiens | out limitation, in disting and futured (including, with or benefit of artific for patent for a portinuation-in-pations of, rentitions of, ren | evention rights, utility patent rights, ire applications for patent of any nout limitation, said application for ity application for patent for any of any of said Inventions directly or art applications (hereinafter CIPs) ewals of, and substitutes for any all patents which may be groundall |
| I HEREBY represent that I convey my full is entire right, title, and interest herein assigned and conflict herewith; | rights in all countries a d transferred, and that | and region I have not | s and under a executed and | international agreements to the will not execute any agreement in |
| AND I HEREBY authorize HPDC, its suc Applications for Patent in its name or in my nar authorize HPDC, its successors, its assigns, its number, and patent office of said application for them; | me in any country or s nominees, and its i | region or egal repre | under any inte esentatives to i | mational agreement, and further |
| AND I HEREBY authorize and request the o duty it is to issue patents, to issue to HPDC, its s Patents, in accordance with the terms of this assig | successors, or its assid | and region gns, as as | is and under al signee of my e | I international agreements whose ntire right, title, and interest, said |
| AND I HEREBY covenant and agree that I w such papers as may be necessary or desirable HPDC, its successors, or its assigns; communical all known facts respecting said Inventions. Applicand sign all lawful papers (including, without leapplications) relating to said Inventions, Applicating to said Inventions, Applicating to do everything possible to aid HPDC, maintain, and enforce, for its or their own benefit, and Patents, provided the expenses which may be its successors, its assigns, its nominees, or its legitations. | to perfect the title in te to HPDC, its succes ations for Patent, and imitation, divisional a ions for Patent, and F its successors, its ass proper intellectual prope e incurred by me in ler | said Inversors, its as Patents; to pplications Patents; ar igns, its no perty protes | ntions, Applica ssigns, its nomi estify in any le , continuation nd make all rig ominees, and it ction for said in | tions for Patent, and Patents, to nees, or its legal representatives, gal or administrative proceedings applications, CIPs, and reissue htful oaths and declarations and s legal representatives to obtain, ventions, Applications for Patent |
| IN WITNESS WHEREOF, I hereunto set my | hand and seal: | | | |
| Mark Feng | | 29 | July | 2016 |
| Inventor's Signature | | Day | Month | Year |
| Mark Feng | | | | |
| Given (First and Middle) Name(s) Family Name | | | | |

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

ASSIGNMENT OF PATENT APPLICATION

| transfer and he having its princ title, and intere | reby assign and transfer to HEW ipal place of business in Housto st, including all rights of priorit said application for patent is in ar | /LETT-PACKARD DEV on, Texas, (hereinafter y, in, to, and under a | ELOPMEN "HPDC"), | T COMPANY, L.P., a its successors, and i | Texas Limited Partnership ts assigns, my entire right |
|--|--|---|---|--|--|
| WIRELESS C | HARGING | | | | |
| Filing Date: | Oct 18, 2018 | _ Application No.: _ | 16/094 | 689 | Patent Office: US |
| herein [©] patent" is design rights, a country or region patent, any and said Inventions, indirectly claims of, divisional apapplication for pon or as a resu | ter, including any and all invention refers to any form of intellectual pand utility model rights) (hereing an or under any international agriculture and all applications for patent direct, any and all applications for passippriority or benefit, and any and applications of, national-phase apparent for any of said Inventions) It of said Applications for Patentions for Patent. | property protection includer "Inventions"); any eement for any of said by or indirectly claiming atent from which any a all continuation applications of, regional- by (hereinafter "Applications) | ading, without and all extended and all | out limitation, invention invention is ting and future appropriet of any appropriet for any of the functions of the appropriet in appropriet i | n rights, utility patent rights olications for patent of an nitation, said application for lication for patent for any of said Inventions directly of olications (hereinafter CIPs of, and substitutes for an ents which may be granted |
| | represent that I convey my full , and interest herein assigned ar n; | _ | _ | | _ |
| Applications for authorize HPD0 | REBY authorize HPDC, its sure Patent in its name or in my name or in my name or in my name or its assigns, its assigns, it is a successors, its assigns, it is a successor of said application for the control of the co | ame in any country or its nominees, and its | region or legal repre | under any internatio esentatives to insert | nal agreement, and furthe the filing date, application |
| duty it is to issu | REBY authorize and request the re patents, to issue to HPDC, its ordance with the terms of this ass | successors, or its ass | | | |
| such papers as HPDC, its succe all known facts and sign all la applications) re generally to do maintain, and e and Patents, pre | REBY covenant and agree that I is may be necessary or desirablessors, or its assigns; communic respecting said Inventions, Applicating to said Inventions, Applicating to said Inventions, Applicating to said Inventions, Applicating to said Inventions, Applications, for its or their own benefit ovided the expenses which may its assigns, its nominees, or its less | e to perfect the title in ate to HPDC, its succe lications for Patent, and limitation, divisional a ations for Patent, and c, its successors, its as t, proper intellectual pro- be incurred by me in le | n said Inve ssors, its a d Patents; t applications Patents; a signs, its n aperty prote | ntions, Applications signs, its nominees, testify in any legal or continuation applicand make all rightful cominees, and its legal to for said Invention | for Patent, and Patents, to or its legal representatives administrative proceedings cations, CIPs, and reissue paths and declarations and al representatives to obtain ons, Applications for Patent |
| IN WITŅE | SS WHEREOF, I hereunto set m | y hand and seal: | | A | |
| Pavid | hsieh | | ** | August | 2016 |
| Inventor's Signa | ature | | Day | Month / | Year |
| David Hsieh | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | | | | |
| Given (First and | Middle) Name(s) Family Nam | ne | | | |

RECORD ID: 84499156

HP Inc. 3390 E. Harmony Road Mail Stop 35 Fort Collins, Colorado 80528

ASSIGNMENT OF PATENT APPLICATION

| the undersigned, for good and valuable considerant for and hereby assign and transfer to HEWLETT having its principal place of business in Houston, Tetitle, and interest, including all rights of priority, in, parentheses if said application for patent is in another | -PACKARD DEVE exas, (hereinafter " to, and under an | LOPMEN [*] 'HPDC"), i | COMPANY, L.P., ts successors, and | a Texas Limited Partnership Lits assigns, my entire right |
|---|---|--|--|--|
| WIRELESS CHARGING | | | | |
| Filing Date: Oct 18, 2018 Ap | plication No.: | 16/09 | 4689 | Patent Office: US |
| the subject matter, including any and all inventions, in herein "patent" refers to any form of intellectual prope design rights, and utility model rights) (hereinafter "country or region or under any international agreeme patent, any and all applications for patent directly or said Inventions, any and all applications for patent indirectly claims priority or benefit, and any and all coof, divisional applications of, national-phase applicat application for patent for any of said Inventions) (here on or as a result of said Applications for Patent (here of said Applications for Patents.) | rty protection includ (Inventions"); any a nt for any of said li indirectly claiming p from which any ap intinuation applicati ions of, regional-pl einafter "Application | ding, without and all extended and all e | ut limitation, invent sting and future a (including, without or benefit of any ap for patent for any ntinuation-in-part a cations of, renewa ent"); any and all p | ion rights, utility patent rights pplications for patent of an limitation, said application for plication for patent for any of of said inventions directly of pplications (hereinafter CIPs ls of, and substitutes for an atents which may be grante |
| I HEREBY represent that I convey my full right entire right, title, and interest herein assigned and tra conflict herewith; | | _ | | _ |
| AND I HEREBY authorize HPDC, its success Applications for Patent in its name or in my name authorize HPDC, its successors, its assigns, its no number, and patent office of said application for pate them; | in any country or i ominees, and its le | region or e egal repre | under any internat sentatives to inser | ional agreement, and furthe rt the filing date, applicatio |
| AND I HEREBY authorize and request the official duty it is to issue patents, to issue to HPDC, its succepatents, in accordance with the terms of this assignment. | essors, or its assig | - | | |
| AND I HEREBY covenant and agree that I will, e such papers as may be necessary or desirable to HPDC, its successors, or its assigns; communicate to all known facts respecting said Inventions, Application and sign all lawful papers (including, without limit applications) relating to said Inventions, Applications generally to do everything possible to aid HPDC, its emaintain, and enforce, for its or their own benefit, projuded Patents, provided the expenses which may be in its successors, its assigns, its nominees, or its legal respectively. | perfect the title in HPDC, its successins for Patent, and ation, divisional ar s for Patent, and F successors, its ass per intellectual proportions of the proportion of the propertion of the proportion of the proportion of the proportion of | said Inversors, its as Patents; to plications Patents; ar igns, its nearty prote | ntions, Applications signs, its nominee estify in any legal of continuation application application application application application application application application for said livensisted invensisted in a possibility application for said livensisted in a possibility application application application application application applications applications application | s for Patent, and Patents, to s, or its legal representatives or administrative proceeding dications, CIPs, and reissu- loaths and declarations and gal representatives to obtain tions, Applications for Paten |
| IN WITNESS WHEREOF, I hereunto set my har | nd and seal: | | | |
| Ming-Shien Tsai | | 59 | July | |
| Inventol/s Signature Ming-Shien Tsai | ı | Day | MOUL | i Dai |
| Given (First and Middle) Name(s) Family Name | *************************************** | | | |

Rev 8/2018 (HPDC Assignment)

PATENT REEL: 047585 FRAME: 0394

RECORDED: 11/26/2018