504509845 08/18/2017

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT4556550

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

CONVEYING PARTY DATA

| Name | Execution Date |
|------------------------|----------------|
| DIPTENDU GHOSH | 01/17/2017 |
| PETTERI MATTI LITMANEN | 01/17/2017 |
| SIRAJ AKHTAR | 01/17/2017 |

RECEIVING PARTY DATA

| Name: | me: TEXAS INSTRUMENTS INCORPORATED | |
|-----------------|------------------------------------|--|
| Street Address: | P.O. BOX 655474, MS 3999 | |
| City: | DALLAS | |
| State/Country: | TEXAS | |
| Postal Code: | 75265 | |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 15408396 |

CORRESPONDENCE DATA

Fax Number: (214)567-2228

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.

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

Phone: 2144791258 Email: uspto@ti.com

Correspondent Name: TEXAS INSTRUMENTS INCORPORATED

Address Line 1: P.O. BOX 655474, MS 3999
Address Line 4: DALLAS, TEXAS 75265

| ATTORNEY DOCKET NUMBER: | TI-76393 |
|-------------------------|--------------------|
| NAME OF SUBMITTER: | SHANNON THOMASON |
| SIGNATURE: | /Shannon Thomason/ |
| DATE SIGNED: | 08/18/2017 |

Total Attachments: 4

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> PATENT REEL: 043333 FRAME: 0151

504509845

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as fisted, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made:

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the taws of the State of Delaware, with a place of business at 12500 TI Boulevard, M/S 3999, Dallas, Texas 75243, is destrous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Parent that may issue thereon, as well as to U.S. Provisional Application No(s), 62/279,183, filed 01/15/2016;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby self and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invertion and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

Laiso hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all fawful papers, execute all divisional, continuation, release and substitute applications, make all tewful paths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

I authorize the later insertion of the nonprovisional application number and filing date hereinbelow.

IN WITNESS WHEREOF, I hereunto set hand and seal this day and year;

| TITLE | Digital to Analog Converter With Passive Reconstruction Filter | | |
|-----------------------------------|--|-------------|------------|
| NONPROVISIONAL APPLICATION NO. | 15/408,396 | FILING DATE | 01/17/2017 |

| SIGNATURE OF INVENTOR | Diptencia Grash |
|-------------------------------|-----------------------------|
| PRINTED NAME OF INVENTOR | Diptendu Ghosh |
| DATE | Effective January 17, 2017 |
| RESIDENCE (CITY AND STATE) | Kolkata, West Bengal, India |

PATENT

REEL: 043333 FRAME: 0152

Application No. 15/408,396

Attorney Docket No. TI-76393

| SIGNATURE OF INVENTOR | |
|-------------------------------|----------------------------|
| PRINTED NAME OF INVENTOR | Petteri Matti Litmanen |
| DATE | Effective January 17, 2017 |
| RESIDENCE (CITY AND STATE) | Richardson, TX |
| SIGNATURE OF INVENTOR | |
| PRINTED NAME OF INVENTOR | Siraj Akhtar |
| DATE | Effective January 17, 2017 |
| RESIDENCE (CITY AND STATE) | Richardson, TX |

After recording, return Assignment to:

Texas Instruments Incorporated P.O. Box 655474, M/S 3999 Dallas, Texas 75265

PATENT REEL: 043333 FRAME: 0153

ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made;

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the State of Delaware, with a place of business at 12500 TI Boulevard, M/S 3999, Dallas, Texas 75243, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon, as well as to U.S. Provisional Application No(s), 62/279,183, filed 01/15/2016;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby sell and assign unto the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application(s) and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Patent and Trademark Office to issue all patents for said invention, or patents resulting therefrom, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my corresponding rights to the invention disclosed in said application in all other countries of the world, including the right to claim priority, file applications and obtain patents under the terms of the Paris Convention for the Protection of Industrial Property, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such rights.

I hereby further agree that I will communicate to said TEXAS INSTRUMENTS INCORPORATED, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, its successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

I authorize the later insertion of the nonprovisional application number and filing date hereinbelow.

IN WITNESS WHEREOF, I hereunto set hand and seal this day and year;

| TITLE | Digital to Analog Converte | r With Passive Recons | truction Filter |
|-----------------------------------|----------------------------|-----------------------|-----------------|
| NONPROVISIONAL APPLICATION NO. | 15/408,396 | FILING DATE | 01/17/2017 |

| SIGNATURE OF INVENTOR | |
|-------------------------------|-----------------------------|
| PRINTED NAME OF INVENTOR | Diptendu Ghosh |
| DATE | Effective January 17, 2017 |
| RESIDENCE (CITY AND STATE) | Kolkata, West Bengal, India |

PATENT REEL: 043333 FRAME: 0154

Application No. 15/408,396

DATE

RESIDENCE

(CITY AND STATE)

RECORDED: 08/18/2017

Attorney Docket No. TI-76393

| | SIGNATURE OF INVENTOR | INVENTOR () | |
|-----|-------------------------------|----------------------------|--|
| | PRINTED NAME OF INVENTOR | Petteri Matti Litmanen | |
| | DATE | Effective January 17, 2017 | |
| | RESIDENCE (CITY AND STATE) | Richardson, TX | |
| | SIGNATURE OF INVENTOR | diray Akhta | |
| | PRINTED NAME OF INVENTOR | Siraj Akhtar | |
| - 2 | | | |

Effective January 17, 2017

Richardson, TX

After recording, return Assignment to:

Texas Instruments Incorporated P.O. Box 655474, M/S 3999 Dallas, Texas 75265

PATENT

REEL: 043333 FRAME: 0155