

PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT7370078

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
STMICROELECTRONICS ASIA PACIFIC PTE LTD	06/01/2022

RECEIVING PARTY DATA

Name:	STMICROELECTRONICS INTERNATIONAL N.V.
Street Address:	CHEMIN DU CHAMP-DES-FILLES 39
Internal Address:	1228 PLAN-LES-OUATES
City:	GENEVA
State/Country:	SWITZERLAND

PROPERTY NUMBERS Total: 39

Property Type	Number
Patent Number:	9976914
Patent Number:	10682645
Patent Number:	9244560
Patent Number:	8928609
Patent Number:	9236861
Patent Number:	8976151
Patent Number:	9523725
Patent Number:	9128573
Patent Number:	9389256
Patent Number:	9176597
Patent Number:	9454272
Patent Number:	9164629
Patent Number:	8952480
Patent Number:	9223448
Patent Number:	9874986
Patent Number:	10013130
Patent Number:	10209844
Patent Number:	9335872
Patent Number:	9246485
Patent Number:	9530417

PATENT

Property Type	Number
Patent Number:	9128560
Patent Number:	9609312
Patent Number:	9268432
Patent Number:	9164674
Patent Number:	8874175
Patent Number:	9466304
Patent Number:	9235300
Patent Number:	8854765
Patent Number:	9241153
Patent Number:	9000703
Patent Number:	9633652
Patent Number:	9135720
Patent Number:	9436647
Patent Number:	9016836
Patent Number:	9016837
Patent Number:	9236067
Patent Number:	9665215
Patent Number:	9863902
Patent Number:	10739291

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	ST ASIAPAC/STI ASSIGNMENT
NAME OF SUBMITTER:	PATRICK C. R. HOLMES
SIGNATURE:	/PATRICK C. R. HOLMES/
DATE SIGNED:	06/07/2022

Total Attachments: 7

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ASSIGNMENT

Assignor:	STMICROELECTRONICS ASIA PACIFIC PTE LTD
Assignor being a company, corporation, or juristic entity of:	Singapore
Assignor's principal place of business:	5A Serangoon North Avenue 5 Singapore, Singapore 554574

Assignee:	STMICROELECTRONICS INTERNATIONAL N.V.
Assignee being a company, corporation, or juristic entity of:	Netherlands
Assignee's principal place of business:	Chemin du Champ-des-Filles 39 1228 Plan-les-Ouates Geneva, Switzerland

WHEREAS, Assignor was assigned certain rights in and to certain inventions, and applications for the Application(s)/Patent(s) listed in the attached Exhibit A; and

WHEREAS, Assignee is desirous of acquiring the entire right, title, and interest in and to the inventions and the application for Application(s)/Patent(s) listed in the attached Exhibit A, and in and to any patent to be obtained therefor and thereon worldwide.

NOW, THEREFORE, for and in consideration of good and valuable consideration, the receipt, sufficiency, and adequacy of which are hereby acknowledged, Assignor hereby transfers and assigns to Assignee, all of Assignor's rights, title, and interest in and to the following:

(a) the Application(s)/Patent(s) listed in the attached Exhibit A together with the inventions for which the Application(s)/Patent(s) listed in the attached Exhibit A is/was (are/were) made and describes (collectively "the Patent Rights");

(b) all provisional applications, patent applications, patents, or other similar governmental grants or issuances, in any jurisdiction in the world, (i) from which the Patent Rights directly or indirectly claims priority and/or (ii) for which the Patent Rights directly or indirectly forms a basis for priority;

(c) any continuations, continuations-in-part, continuing prosecution applications, requests for continuing examinations, divisionals, reissues, reexaminations, extensions, and registrations, in any jurisdiction in the world, of any provisional patent application, patent application, patent, or other governmental grant or issuance set forth in clauses (a) and/or (b) (clauses (a) through (c), collectively the "Assigned Patent Rights");

(d) any causes of action (whether currently pending, filed, or otherwise) and all other enforcement rights and rights to remedies under, on account of, or related to, any of the Assigned Patent Rights, including, without limitation, all causes of action and other

enforcement rights for (i) damages, (ii) injunctive relief, and (iii) other remedies of any kind for past, current, and future infringement or misappropriation in violation of rights, and all rights to sue for any of the foregoing; and

(e) any and all other rights and interests in any jurisdiction in the world arising out of the Assigned Patent Rights, including, but not limited to, any right to claim priority thereto and/or therefrom.

All of the rights, title, and interest assigned above shall be held and enjoyed by the Assignee for its own use and enjoyment and for the use and enjoyment of its successors and assigns to the full end of the applicable term for which the aforementioned rights may be granted in any jurisdiction in the world.

Assignor hereby further agrees to assist in, sign, and execute all documents needed or desired, now or in the future, to perfect, obtain, and secure the aforementioned rights to Assignee and its successors for any jurisdiction in the world. At the expense of Assignee or its successors, Assignor agree to assist in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid Assignee and its affiliates or their successors, as well as their legal representatives, to enforce the aforementioned rights in any jurisdiction in the world.

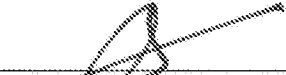
Assignor hereby grant Assignee, along with the following Assignee representatives, the power to insert in this Assignment any further identification that may be necessary or desirable in order to comply with the rules for recordation of this document in any jurisdiction in the world: All practitioners at USPTO Customer Number 28899.

If part or all of Assignor's rights, title, and interest arising out of the Assigned Patent Rights are already owned by Assignee, or its successor(s)/predecessor(s), because (i) Assignor is or was already subject to an obligation to assign such rights, title, and interest to Assignee, or its successor(s)/predecessor(s), by an agreement, company policy, applicable law, or otherwise, and/or (ii) such rights, title, and interest have already been assigned by operation of law to Assignee, or its successor(s)/predecessor(s), in accordance with applicable law, and/or (iii) such rights, title, and interest were, from their inception, automatically owned by Assignee, or its successor(s)/predecessor(s), under applicable law, then this document further memorializes, documents, and confirms such prior ownership by Assignee, or its successor(s)/predecessor(s), of such rights, title, and interest for all purposes, including for recording purposes in any jurisdiction in the world.

Assignor and Assignee confirm and agree that a notarized and/or legalized translation copy of this document in any other language shall have the same force and effect in any jurisdiction in the world as if such translation copy were an original thereof.

The signatures of all the signers need not appear on the same page, and each signer may sign this Assignment in multiple counterparts, such that collectively all the necessary signatures of each separately signed counterpart of this Assignment constitutes an original Assignment. A paper or electronic copy of a signature page shall have the same force and effect as if such copy were an original thereof.

Assignor
STMICROELECTRONICS ASIA PACIFIC PTE LTD


Signature:  _____

Print Name: Gregoire Barry Delongchamps
Regional Counsel
STMicroelectronics

Title: _____

Date: 1 June 2022

Acknowledged and accepted by:
Assignee
STMICROELECTRONICS INTERNATIONAL N.V.

Signature:  _____

Print Name: Patrick C. R. Holmes

Title: Attorney-in-Fact

Date: June 7, 2022

EXHIBIT A

Country	Application No.	Patent No.	Title (may not match current Title at Patent Office)
Italy	TO2013A000502	1418487	ELECTRONIC DEVICE WITH INTEGRATED TEMPERATURE SENSOR AND MANUFACTURING METHOD THEREOF
United States of America	14308470	9976914	ELECTRONIC DEVICE WITH INTEGRATED TEMPERATURE SENSOR AND MANUFACTURING METHOD THEREOF
United States of America	15960509	10682645	ELECTRONIC DEVICE WITH INTEGRATED TEMPERATURE SENSOR AND MANUFACTURING METHOD THEREOF
United States of America	13862562	9244560	MULTIPLE ROW RECEIVING LINE PATTERN FOR IN-CELL TOUCHSCREEN PANELS
United States of America	13544713	8928609	COMBINING TOUCH SCREEN AND OTHER SENSING DETECTIONS FOR USER INTERFACE CONTROL
United States of America	13539704	9236861	CAPACITIVE PROXIMITY SENSOR WITH ENABLED TOUCH DETECTION
United States of America	13618967		CONFIGURABLE ANALOG FRONT-END FOR MUTUAL CAPACITANCE SENSING AND SELF CAPACITANCE SENSING
United States of America	13717766	8976151	CONFIGURABLE ANALOG FRONT-END FOR MUTUAL CAPACITANCE SENSING AND SELF CAPACITANCE SENSING
United States of America	14322244	9523725	CONFIGURABLE ANALOG FRONT-END FOR MUTUAL CAPACITANCE SENSING AND SELF CAPACITANCE SENSING
United States of America	13619328	9128573	HIGH SIGNAL TO NOISE RATIO CAPACITIVE

Country	Application No.	Patent No.	Title (may not match current Title at Patent Office)
			SENSING ANALOG FRONT-END
United States of America	13717780	9389256	HIGH SIGNAL TO NOISE RATIO CAPACITIVE SENSING ANALOG FRONT-END
United States of America	13539731	9176597	DIRECTIONAL CAPACITIVE PROXIMITY SENSOR WITH BOOTSTRAPPING
United States of America	14284650	9454272	TOUCH SCREEN FOR STYLUS EMITTING WIRELESS SIGNALS
United States of America	13567331	9164629	TOUCH SCREEN PANEL WITH SLIDE FEATURE
United States of America	13614008	8952480	ELECTRONIC DEVICE INCLUDING THERMAL SENSOR AND PELTIER COOLER AND RELATED METHODS
United States of America	13629877	9223448	COMPENSATION FOR VARIATIONS IN A CAPACITIVE SENSE MATRIX
United States of America	14945620	9874986	COMPENSATION FOR VARIATIONS IN A CAPACITIVE SENSE MATRIX
United States of America	15840438	10013130	COMPENSATION FOR VARIATIONS IN A CAPACITIVE SENSE MATRIX
United States of America	15995340	10209844	COMPENSATION FOR VARIATIONS IN A CAPACITIVE SENSE MATRIX
United States of America	13632443	9335872	HYBRID STYLUS FOR USE IN TOUCH SCREEN APPLICATIONS
United States of America	13739112	9246485	SINGLE LAYER SENSOR PATTERN
United States of America	61749094		TEXT-INDEPENDENT SPEAKER RECOGNITION
United States of America	13854134	9530417	METHODS, SYSTEMS, AND CIRCUITS FOR TEXT INDEPENDENT SPEAKER RECOGNITION WITH

Country	Application No.	Patent No.	Title (may not match current Title at Patent Office)
			AUTOMATIC LEARNING FEATURES
United States of America	13738081	9128560	BORDERLESS TOUCH PANEL DESIGN
United States of America	13723584	9609312	ANAGLYPH GHOST CANCELLATION
United States of America	13656302	9268432	TOUCH PANEL HAVING A MASTER AND SLAVE CONTROLLER AND METHOD FOR DRIVING THEREOF
United States of America	13852478	9164674	THREE-DIMENSIONAL GESTURE RECOGNITION SYSTEM, CIRCUIT, AND METHOD FOR A TOUCH SCREEN
United States of America	13672326	8874175	CONVERTING SAMPLES OF A SIGNAL AT A SAMPLE RATE INTO SAMPLES OF ANOTHER SIGNAL AT ANOTHER SAMPLE RATE
China	201410333164.6	ZL201410333164.6	SYSTEM AND METHOD FOR DIGITAL WATERMARK
China	201420386838.4	ZL201420386838.4	SYSTEM FOR DIGITAL WATERMARK
United States of America	14666109	9466304	METHOD AND SYSTEM FOR DIGITAL WATERMARKING
United States of America	13853870	9235300	ANALOG ACCUMULATOR
United States of America	13781908	8854765	REGULATING DISTRIBUTION OF POWER IN A HARD DISK DRIVE FOLLOWING A POWER LOSS
United States of America	13856342	9241153	CONTRAST ADJUSTED ANAGLYPH FOR REDUCING GHOSTING ARTIFACTS
United States of America	13687193	9000703	BACK EMF DETECTION IN A BRUSHLESS DC MOTOR USING A VIRTUAL CENTER TAP CIRCUIT

Country	Application No.	Patent No.	Title (may not match current Title at Patent Office)
United States of America	61731992		SPEAKER DEPENDENT VOICE RECOGNITION WITH SINGLE LEXICON
United States of America	13854133	9633652	METHODS, SYSTEMS, AND CIRCUITS FOR SPEAKER DEPENDENT VOICE RECOGNITION WITH A SINGLE LEXICON
United States of America	13851807	9135720	CONTENT-BASED ASPECT RATIO DETECTION
United States of America	14026375	9436647	IIC BUS START-STOP DETECTION CIRCUIT
United States of America	13893472	9016836	INK JET PRINTHEAD WITH POLARITY-CHANGING DRIVER FOR THERMAL RESISTORS
United States of America	13893482	9016837	INK JET PRINTHEAD DEVICE WITH COMPRESSIVE STRESSED DIELECTRIC LAYER
United States of America	13956484	9236067	METHOD AND APPARATUS FOR SPEED CONTROL OF VOICE COIL MOTOR RETRACT OPERATION DEPENDENT UPON AVAILABLE POWER
United States of America	13853887	9665215	METHOD AND CIRCUIT FOR PARASITIC CAPACITANCE CANCELLATION FOR SELF CAPACITANCE SENSING
United States of America	14200928	9863902	MICROELECTRONIC FLUID DETECTOR
United States of America	15833806	10739291	MICROELECTRONIC FLUID DETECTOR