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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758

CONFIRMATION NO. 9862

POWER OF ATTORNEY NOTICE

12323
Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

OC00000103467435

Date Mailed: 10/31/2018

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/24/2018.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/sibrahim/

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 1

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/516,845	10/17/2014	Shahrooz Shahparnia	941131.424C

CONFIRMATION NO. 9862

POA ACCEPTANCE LETTER

500
SEED INTELLECTUAL PROPERTY LAW GROUP LLP
701 FIFTH AVE
SUITE 5400
SEATTLE, WA 98104

OC000000103467475

Date Mailed: 10/31/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/24/2018.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/sibrahim/

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/516,845
Filing Date	October 17, 2014
First Named Inventor	Shahrooz Shahparnia
Title	Active Stylus with High Voltage
Art Unit	2695
Examiner Name	Van Nguyen Chow
Attorney Docket Number	941131.424C1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Shoko Leek/	Date (Optional)	10/24/2018
Name	Shoko I. Leek	Registration Number	43,746
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 00500

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wacom Co., Ltd.

☐ Inventor or Joint Inventor (title not required below)
☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	Yuichi Ide	Date (Optional)	
Name	Yuichi Ide		
Title	Vice President Intellectual Property, Wacom Co., Ltd		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	34103394
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Shoko I. Leek
Filer Authorized By:	
Attorney Docket Number:	080900.2758
Receipt Date:	24-OCT-2018
Filing Date:	17-OCT-2014
Time Stamp:	16:10:05
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73	373.pdf	2165275 bdad64a02e75c6dc3c081b8b64a16a0344e81e39	no	21

Warnings:

Information:					
2	Power of Attorney	POA.pdf	211056 e5f11be2ab749e623db07407e2069891570bb4b1	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	2376331	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Wacom Co., Ltd.

Application No./Patent No.: 9,933,866 Filed/Issue Date: April 3, 2018

Titled: Active Stylus with High Voltage

Wacom Co., Ltd., a limited liability company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. ☑ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Shahrooz Shahparnia et al. To: Atmel Corporation

   The document was recorded in the United States Patent and Trademark Office at

   Reel 033970, Frame 0709, or for which a copy thereof is attached.

2. From: Atmel Corporation To: Wacom Co., Ltd.

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Shoko Leek/	October 24, 2018
Signature	Date
Shoko I. Leek	43,746
Printed or Typed Name	Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Schedule 2.2

Form of Patent Assignment

Patent Assignment

For good and valuable consideration, the receipt of which is hereby acknowledged, and subject to the encumbrances described, and the other terms and conditions set forth, in the Patent Sale and Assignment Agreement dated as of September 6, 2018 ("**Patent Sale Agreement**") between Microchip Technology Inc., a Delaware corporation and its Affiliates, including Atmel Corporation ("**Assignor**"), and Wacom Co., Ltd. ("**Assignee**"), Assignor hereby sells and assigns to Assignee, all of Assignor's right, title, and interest in and to (i) the U.S patents and patent applications listed in Attachment A ("**Listed Patents**"), (ii) any patents that may issue on the patent applications included in the Listed Patents, (iii) any reissues and renewals of any Listed Patents, (iv) any results of oppositions, reexaminations, supplemental examinations, and other review procedures with respect to any Listed Patents, and (v) any other patents or patent applications from which any Listed Patents claim priority and all inventions disclosed and claimed in any of (i) through (v) (collectively, including the Listed Patents, the "**Assigned Patents**") for the full term of such Assigned Patents, including any rights to (a) maintain, further prosecute, and renew the Assigned Patents (in each case where possible under applicable law), (b) transfer, and grant licenses and other rights under, the Assigned Patents, and (c) enforce, and bring actions for all past, present and future infringement of, the Assigned Patents.

Notwithstanding, and without limitation of the generality of, the foregoing, the Assigned Patents and the sale and assignment to Assignee or any successor thereto or assignee thereof are subject to the terms and conditions of the Patent Sale Agreement.

IN WITNESS WHEREOF, Assignor has caused this Patent Assignment to be duly signed on its behalf.

MICROCHIP TECHNOLOGY INC.	**ATMEL CORPORATION**
By:	By:
Name: Eric Bjornholt	Name: Kim van Herk
Title: VP, CFO	Title: VP, General Counsel

Listed Patents

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US8947404	Stylus	Atmel Corporation	US	US13/044237	3/9/2011	2/3/2015	
US20130106719	Data transfer from active stylus to configure a device or application	Atmel Corporation	US	US13/356122	1/23/2012	5/2/2013	
US20130106740	Touch-sensitive system with motion filtering	Atmel Corporation	US	US13/553532	7/19/2012	5/2/2013	
US20130106717	Multi-electrode active stylus tip	Atmel Corporation	US	US13/332919	12/21/2011	5/2/2013	
	Multi-electrode active stylus tip	Atmel Corporation	US	US16/135,749	9/19/2018		
US20130106798	Differential sensing in an active stylus	Atmel Corporation	US	US13/434596	3/29/2012	5/2/2013	
US20130106714	Power management system for active stylus	Atmel Corporation	US	US13/329270	12/17/2011	5/2/2013	
US20160091992	Executing gestures with active stylus	Atmel Corporation	US	US14/832049	8/21/2015	3/31/2016	
US20170192540	Adaptive transmit voltage in active stylus	Atmel Corporation	US	US15/462959	3/20/2017	7/6/2017	US9606641
US9116558	Executing gestures with active stylus	Atmel Corporation	US	US13/419087	3/13/2012	8/25/2015	

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 11

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US8947379	Inductive charging for active stylus	Atmel Corporation	US	US13/363140	1/31/2012	2/3/2015	
US9160331	Capacitive and inductive sensing	Atmel Corporation	US	US13/355013	1/20/2012	10/13/2015	
US8581886	Tuning algorithm for noise reduction in an active stylus	Atmel Corporation	US	US13/427721	3/22/2012	11/12/2013	
US8933899	Pulse- or frame-based communication using active stylus	Atmel Corporation	US	US13/363043	1/31/2012	1/13/2015	
US8797287	Selective scan of touch-sensitive area for passive or active touch or proximity input	Atmel Corporation	US	US13/331238	12/20/2011	8/5/2014	
US9310930	Selective scan of touch-sensitive area for passive or active touch or proximity input	Atmel Corporation	US	US14/448698	7/31/2014	4/12/2016	
US9164603	Executing gestures with active stylus	Atmel Corporation	US	US13/363190	1/31/2012	10/20/2015	
US9164598	Active stylus with surface-modification materials	Atmel Corporation	US	US13/362921	1/31/2012	10/20/2015	
US9958990	Authenticating with active stylus	Atmel Corporation	US	US13/556799	7/24/2012	5/1/2018	US9965107

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 12

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US9965107	Authenticating with active stylus	Atmel Corporation	US	US13/556766	7/24/2012	5/8/2018	US9958990
US9946408	Communication between a master active stylus and a slave touch-sensor device	Atmel Corporation	US	US13/326981	12/15/2011	4/17/2018	
US9690431	Locking active stylus and touch-sensor device	Atmel Corporation	US	US13/328055	12/16/2011	6/27/2017	
US9557833	Dynamic adjustment of received signal threshold in an active stylus	Atmel Corporation	US	US13/335296	12/22/2011	1/31/2017	US8581886
US9874920	Power management system for active stylus	Atmel Corporation	US	US13/328594	12/16/2011	1/23/2018	
US9389707	Active stylus with configurable touch sensor	Atmel Corporation	US	US13/333791	12/21/2011	7/12/2016	
US9389701	Data transfer from active stylus	Atmel Corporation	US	US13/364803	2/2/2012	7/12/2016	
US9280218	Modulating drive signal for communication between active stylus and touch-sensor device	Atmel Corporation	US	US13/335328	12/22/2011	3/8/2016	
US9354728	Active stylus with capacitive buttons and sliders	Atmel Corporation	US	US13/335522	12/22/2011	5/31/2016	
US9250719	Active stylus with filter	Atmel Corporation	US	US13/329274	12/17/2011	2/2/2016	

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 13

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US9459709	Scaling voltage for data communication between active stylus and touch-sensor device	Atmel Corporation	US	US13/329273	12/17/2011	10/4/2016	
US9182856	Capacitive force sensor	Atmel Corporation	US	US13/330312	12/19/2011	11/10/2015	
US9086745	Dynamic reconfiguration of electrodes in an active stylus	Atmel Corporation	US	US13/334875	12/22/2011	7/21/2015	
US9933866	Active stylus with high voltage	Atmel Corporation	US	US14/516845	10/17/2014	4/3/2018	
US8866767	Active stylus with high voltage	Atmel Corporation	US	US13/362830	1/31/2012	10/21/2014	
US9189121	Active stylus with filter having a threshold	Atmel Corporation	US	US13/329268	12/17/2011	11/17/2015	
US9891723	Active stylus with surface-modification materials	Atmel Corporation	US	US14/876176	10/6/2015	2/13/2018	
US9880645	Executing gestures with active stylus	Atmel Corporation	US	US14/883064	10/14/2015	1/30/2018	
US9164604	Tuning algorithm for noise reduction in an active stylus	Atmel Corporation	US	US14/076892	11/11/2013	10/20/2015	
US8872792	Active stylus with energy harvesting	Atmel Corporation	US	US13/402681	2/22/2012	10/28/2014	

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 14

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US9280220	Pulse- or frame-based communication using active stylus	Atmel Corporation	US	US14/593349	1/9/2015	3/8/2016	
US9606641	Adaptive transmit voltage in active stylus	Atmel Corporation	US	US14/642128	3/9/2015	3/28/2017	
DE102012219329	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210219329	10/23/2012	5/2/2013	
DE102016203848	Adaptive transfer voltage in an active pin	Atmel Corporation	DE	DE201610203848	3/9/2016	9/15/2016	
DE102012219167	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210219167	10/22/2012	5/2/2013	
DE102012219165	Input pen for touch sensing device for, e.gsmart phone, has several sensors for	Atmel Corporation	DE	DE201210219165	10/22/2012	5/2/2013	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
	recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen						
DE102012219000	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210219000	10/18/2012	5/2/2013	
DE102012218999	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218999	10/18/2012	5/2/2013	
DE102012218965	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from	Atmel Corporation	DE	DE201210218965	10/18/2012	5/2/2013	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
	input pin or environment of input pen						
DE102012218784	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218784	10/16/2012	5/2/2013	
DE102012218779	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218779	10/16/2012	5/2/2013	
DE102012218493	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218493	10/11/2012	5/2/2013	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE102012218308	Said touch-sensitive system with a movement filtering	Atmel Corporation	DE	DE201210218308	10/8/2012	5/2/2013	
DE102012218267	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218267	10/8/2012	5/2/2013	
DE102012218167	Input pen for touch sensing device for, e.gsmart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218167	10/4/2012	5/2/2013	
DE102012218165	Input pen for touch sensing device for, e.g. smart phone, has several sensors for recovering kinetic, thermal, solar or electrical energy from input pin or environment of input pen	Atmel Corporation	DE	DE201210218165	10/4/2012	5/2/2013	

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Exhibit 1002 Page 18

Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE202012101911	Capacitive force sensor	Atmel Corporation	DE	DE201220101911U	5/24/2012	6/15/2012	
DE202012102273	Active input pen with capacitive keys and slider controls	Atmel Corporation	DE	DE201220102273U	6/20/2012	7/12/2012	
DE202012102427	Contact sensor - an apparatus with modulated control signal for communication with active stylus	Atmel Corporation	DE	DE201220102427U	7/2/2012	7/26/2012	
DE202012102752	Adaptation algorithm in order to reduce the noise in an active pin	Atmel Corporation	DE	DE201220102752U	7/23/2012	9/18/2012	
DE202012102444	Active input pen, can be carried out with the gestures	Atmel Corporation	DE	DE201220102444U	7/3/2012	7/26/2012	
DE202012102253	Energy par a system for an active pin	Atmel Corporation	DE	DE201220102253U	6/19/2012	7/24/2012	
DE202012101967	Touch sensor with a selective scanning of touch sensitive area for passive or active non-contacting - or - input approach	Atmel Corporation	DE	DE201220101967U	5/30/2012	7/13/2012	
DE202012102976	Touch sensor with active pin	Atmel Corporation	DE	DE201220102976U	8/8/2012	9/5/2012	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE202012101735	Active input pen with an energy - harvesting	Atmel Corporation	DE	DE201220101735U	5/11/2012	5/24/2012	
DE202012101769	Touch sensor with a pulse - or frame-based communication with the use of an active input pen	Atmel Corporation	DE	DE201220101769U	5/14/2012	5/29/2012	
DE202012101881	More electrodes tip of an active input pen	Atmel Corporation	DE	DE201220101881U	5/23/2012	6/15/2012	
DE202012101913	Active stylus with the optical filter, the threshold value has	Atmel Corporation	DE	DE201220101913U	5/24/2012	6/18/2012	
DE202012102059	Active stylus with an inductive charging	Atmel Corporation	DE	DE201220102059U	6/5/2012	7/4/2012	
DE202012102057	Active stylus with a filter	Atmel Corporation	DE	DE201220102057U	6/5/2012	7/5/2012	
DE202012102274	Active input pen having a dynamic reconfiguration of electrodes	Atmel Corporation	DE	DE201220102274U	6/20/2012	7/12/2012	
DE202012102975	Touch sensor with a capacitive and inductive sensing	Atmel Corporation	DE	DE201220102975U	8/8/2012	9/14/2012	
DE202012102443	Active stylus with a fixed coupling and touch sensor - apparatus	Atmel Corporation	DE	DE201220102443U	7/3/2012	9/13/2012	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE202012102787	Active input pen, can be carried out with the gestures	Atmel Corporation	DE	DE201220102787U	7/25/2012	9/18/2012	
DE202012102572	Differential detection in an active pin	Atmel Corporation	DE	DE201220102572U	7/12/2012	9/20/2012	
DE202012101742	Active input pen with data transmission	Atmel Corporation	DE	DE201220101742U	5/11/2012	5/24/2012	
DE202012101768	Active input pen with surfaces modification materials	Atmel Corporation	DE	DE201220101768U	5/14/2012	5/30/2012	
DE202012101912	Active input pen with a high voltage	Atmel Corporation	DE	DE201220101912U	5/24/2012	6/15/2012	
DE202012102222	Active input pen, of the data for configuring a device or application transmits	Atmel Corporation	DE	DE201220102222U	6/18/2012	7/11/2012	
DE202012102252	Active input pen having a dynamic adaptation of the reception signal threshold value	Atmel Corporation	DE	DE201220102252U	6/19/2012	7/17/2012	
DE202012102338	Active stylus - pin with configurable touch sensor	Atmel Corporation	DE	DE201220102338U	6/26/2012	7/19/2012	
DE202012102987	Active pin and contact sensor device with scaled voltages for the data transmission	Atmel Corporation	DE	DE201220102987U	8/9/2012	9/5/2012	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE202012102967	Energy par system for active pin	Atmel Corporation	DE	DE201220102967U	8/7/2012	9/5/2012	
DE202012101966	Combined contact sensor input	Atmel Corporation	DE	DE201220101966U	5/30/2012	7/12/2012	
DE202012102386	Touch sensor with look-up table	Atmel Corporation	DE	DE201220102386U	6/28/2012	7/26/2012	
US9354737	Active stylus self-capacitance measurement	Atmel Corporation	US	US13/571016	8/9/2012	5/31/2016	
US9563304	Active stylus with passive mutual measurements	Atmel Corporation	US	US13/586745	8/15/2012	2/7/2017	
DE102013215800	Active input pen with passive mutual capacitance measurements	Atmel Corporation	DE	DE201310215800	8/9/2013	2/20/2014	
US20180232025	Stylus communication with near-field coupling		US	US15/909755	3/1/2018	8/16/2018	
US9921626	Stylus communication with near-field coupling	Atmel Corporation	US	US13/630990	9/28/2012	3/20/2018	
DE102013219130	With a near-field coupling stylus communication	Atmel Corporation	DE	DE201310219130	9/24/2013	4/3/2014	
US9256301	Active stylus with noise immunity	Atmel Corporation	US	US13/648665	10/10/2012	2/9/2016	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US9958966	Active stylus communication and position system	Atmel Corporation	US	US13/653300	10/16/2012	5/1/2018	
DE102013220920	Active pin communication and positioning system	Atmel Corporation	DE	DE201310220920	10/16/2013	4/17/2014	
US10031590	Active stylus with a parallel communication channel	Atmel Corporation	US	US13/653200	10/16/2012	7/24/2018	
DE102013220963	Active pin with parallel communication channel	Atmel Corporation	DE	DE201310220963	10/16/2013	4/30/2014	
US9841862	Stylus position system	Atmel Corporation	US	US13/653247	10/16/2012	12/12/2017	
DE102013220964	Pin positioning system	Atmel Corporation	DE	DE201310220964	10/16/2013	4/30/2014	
US9213455	Stylus with resonant circuit	Atmel Corporation	US	US13/653818	10/17/2012	12/15/2015	
US9035919	Electrostatics stylus	Microchip Technology Incorporated	US	US13/842869	3/15/2013	5/19/2015	
EP2972706	Electrostatic stylus	Microchip Technology Incorporated	EP	EP20140712846	3/1/2014	1/20/2016	
KR20150129643	Electrostatic stylus	Microchip Technology Incorporated	KR	KR20157008290	3/1/2014	11/20/2015	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
TW201443712	Electrostatic stylus	Microchip Technology Incorporated	TW	TW20140108551	3/12/2014	11/16/2014	
CN104685458	Electrostatic stylus	Microchip Technology Incorporated	CN	CN2014802578	3/1/2014	7/6/2018	
US9274644	Synchronization of active stylus and touch sensor	Atmel Corporation	US	US13/975926	8/26/2013	3/1/2016	
DE102014216860	Synchronization of an actively pin and a touch sensor	Atmel Corporation	DE	DE201410216860	8/25/2014	2/26/2015	
US9785263	Touch screen stylus with force and/or angle sensing functionality	Microchip Technology Incorporated	US	US14/462242	8/18/2014	10/10/2017	
EP3036609	Touch screen stylus with force and/or angle sensing functionality	Microchip Technology Incorporated	EP	EP20140759409	8/21/2014	6/29/2016	
KR20160044496	Touch screen stylus with force and/or angle sensing functionality	Microchip Technology Incorporated	KR	KR20167005513	8/21/2014	4/25/2016	
CN105556445	Touch screen stylus with force and/or angle sensing functionality	Microchip Technology Incorporated	CN	CN2014850739	8/21/2014	5/4/2016	
TW201523346	Touch screen stylus with force and / or angle sensing functionality	Microchip Technology Incorporated	TW	TW20140129066	8/22/2014	6/16/2015	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US20160098105	Method and system for determining stylus tilt in relation to a touch-sensing device	Atmel Corporation	US	US14/968585	12/14/2015	4/7/2016	US9213423
US9213423	Method and system for determining stylus tilt in relation to a touch-sensing device	Atmel Corporation	US	US14/026466	9/13/2013	12/15/2015	
US9329705	Stylus with asymmetric electronic characteristics	Atmel Corporation	US	US14/073417	11/6/2013	5/3/2016	
DE102014222429	Pin with asymmetric electronic properties	Atmel Corporation	DE	DE201410222429	11/4/2014	5/7/2015	
US9152254	Electrical connection for active-stylus electrode	Atmel Corporation	US	US14/086626	11/21/2013	10/6/2015	
US20150138165	Replaceable tip for active stylus	Atmel Corporation	US	US14/086735	11/21/2013	5/21/2015	
US20170344139	Timing synchronization of active stylus and touch sensor	Atmel Corporation	US	US15/676620	8/14/2017	11/30/2017	
US9733731	Timing synchronization of active stylus and touch sensor	Atmel Corporation	US	US14/275462	5/12/2014	8/15/2017	
TW201610763	Timing synchronization of active stylus and touch sensor	Atmel Corporation	TW	TW20150115092	5/12/2015	3/16/2016	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
DE102015208460	Synchronization of the timing of an active pin and of a touch sensor	Atmel Corporation	DE	DE201510208460	5/7/2015	11/12/2015	
CN105094384	Timing synchronization of active stylus and touch sensor	Atmel Corporation	CN	CN20151236470	5/11/2015	11/25/2015	
US9389708	Active stylus with force sensor	Atmel Corporation	US	US14/272882	5/8/2014	7/12/2016	
US20180046273	Low-power and low-frequency data transmission for stylus and associated signal processing	Atmel Corporation	US	US15/791002	10/23/2017	2/15/2018	
US9798396	Low-power and low-frequency data transmission for stylus and associated signal processing	Atmel Corporation	US	US14/687691	4/15/2015	10/24/2017	US9569016
US9569016	Low-power and low-frequency data transmission for stylus	Atmel Corporation	US	US14/461956	8/18/2014	2/14/2017	
US9483129	Active stylus with fractional clock-cycle timing	Atmel Corporation	US	US14/709755	5/12/2015	11/1/2016	
US9696826	Stylus with low-power detector	Atmel Corporation	US	US14/788637	6/30/2015	7/4/2017	

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Patent / Publication Number	Title	Current Assignee	Country Code	Application Number	Filed Date	Publication / Issue Date	Terminal Disclaimer
US9904377	Communication between active stylus and touch sensor	Atmel Corporation	US	US14/925748	10/28/2015	2/27/2018	
US20180217689	Active stylus with multiple sensors for receiving signals from a touch sensor	Atmel Corporation	US	US15/935701	3/26/2018	8/2/2018	
US9939930	Active stylus with multiple sensors for receiving signals from a touch sensor	Atmel Corporation	US	US15/177846	6/9/2016	4/10/2018	

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UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	04/03/2018	9933866	080900.2758	9862

12323 7590 03/14/2018

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Shahrooz Shahparnia, Campbell, CA;
Atmel Corporation, San Jose, CA;
Kishore Sundara-Rajan, San Jose, CA;
Yassar Ali, Sunnyvale, CA;
Izhar Bentov, Sunnyvale, CA;

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Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

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12323 7590 11/20/2017
Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

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(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

TITLE OF INVENTION: Active Stylus with High Voltage

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	02/20/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHOW, VAN NGUYEN	2695	345-179000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Baker Botts L.L.P.
2
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Atmel Corporation

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Chandler, AZ

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☒ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:
- ☒ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies .....

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5. **Change in Entity Status** (from status indicated above)
- ☐ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ☐ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ☐ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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Authorized Signature ..... Date 2/14/18
Typed or printed name Bradley P. Williams Registration No. 40,227

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Electronic Patent Application Fee Transmittal

Application Number:	14516845
Filing Date:	17-Oct-2014
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Filer:	Harrison G. Rich/mary johnson
Attorney Docket Number:	080900.2758

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	1501	1	960	960

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**960**

Electronic Acknowledgement Receipt

EFS ID:	31812256
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Harrison G. Rich/mary johnson
Filer Authorized By:	Harrison G. Rich
Attorney Docket Number:	080900.2758
Receipt Date:	16-FEB-2018
Filing Date:	17-OCT-2014
Time Stamp:	10:45:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$960
RAM confirmation Number	021618INTEFSW00007907020384
Deposit Account	020384
Authorized User	Mary Johnson

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

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1	Issue Fee Payment (PTO-85B)	0809002758issuefee.PDF	137199 3044c4b721c57214b5a7ab7994592e8c2ee406c7	no	1
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30492 6e36551fe7893a18a185de0dd23f06c0a525bcd6	no	2
Warnings:					
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		Total Files Size (in bytes):	167691		

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New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

CPC							
Symbol						**Type**	**Version**
G06F		3	/	0383		F	2013-01-01
G06F		1	/	26		I	2013-01-01
G06F		3	/	03545		I	2013-01-01
G06F		3	/	044		I	2013-01-01
G06F		2203	/	0384		A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/VAN CHOW/ Primary Examiner.Art Unit 2695	12/01/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
345	179	G 0 6 F 3 / 03 (2006.0)	

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/VAN CHOW/ Primary Examiner.Art Unit 2695	12/01/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	21	17	37												
2	22	18	38												
3	23	19	39												
4	24	20	40												
5	25														
6	26														
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8	28														
9	29														
10	30														
11	31														
12	32														
13	33														
14	34														
15	35														
16	36														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/VAN CHOW/ Primary Examiner.Art Unit 2695 (Primary Examiner)	12/01/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 11/29/2017

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
11/29/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Corrected Notice of Allowability	**Application No.** 14/516,845	**Applicant(s)** SHAHPARNIA ET AL.	
	Examiner VAN CHOW	**Art Unit** 2695	**AIA (First Inventor to File) Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/21/2017*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *21-40*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/VAN CHOW/
Primary Examiner, Art Unit 2695

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
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G06F		3	/	044	I	2013-01-01
G06F		2203	/	0384	A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/VAN CHOW/ Primary Examiner.Art Unit 2695	11/06/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

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16	36														
17	37														
18	38														

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	20	
/VAN CHOW/ Primary Examiner.Art Unit 2695	11/06/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015	02/04/2016	08/02/2016	12/30/2016	06/27/2017	11/22/2017			
	21	✓	✓	✓	✓	✓	=			
	22	✓	✓	✓	✓	✓	=			
	23	✓	✓	✓	✓	✓	=			
	24	✓	✓	✓	✓	✓	=			
	25	✓	✓	✓	✓	✓	=			
	26	✓	✓	✓	✓	✓	=			
	27	✓	✓	✓	✓	✓	=			
	28	✓	✓	✓	=	✓	=			
	29	✓	✓	✓	=	✓	=			
	30	✓	✓	✓	=	✓	=			
	31	✓	✓	✓	=	✓	=			
	32	✓	✓	✓	=	✓	=			
	33	✓	✓	✓	=	✓	=			
	34	✓	✓	✓	=	✓	=			
	35	✓	✓	✓	✓	✓	=			
	36	✓	✓	✓	✓	✓	=			
	37	✓	✓	✓	O	✓	=			
	38	✓	✓	✓	✓	✓	=			
	39	✓	✓	✓	O	✓	=			
	40	✓	✓	✓	O	✓	=			

UNITED STATES PATENT AND TRADEMARK OFFICE

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NOTICE OF ALLOWANCE AND FEE(S) DUE

12323 7590 11/20/2017

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER
CHOW, VAN NGUYEN

ART UNIT	PAPER NUMBER
2695	

DATE MAILED: 11/20/2017

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

TITLE OF INVENTION: Active Stylus with High Voltage

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	02/20/2018

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 43

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

12323 7590 11/20/2017
Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

TITLE OF INVENTION: Active Stylus with High Voltage

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	UNDISCOUNTED	$960	$0	$0	$960	02/20/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
CHOW, VAN NGUYEN	2695	345-179000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
- ❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. The following fee(s) are submitted:
- ❑ Issue Fee
- ❑ Publication Fee (No small entity discount permitted)
- ❑ Advance Order - # of Copies _____

4b. Payment of Fee(s): **(Please first reapply any previously paid issue fee shown above)**
- ❑ A check is enclosed.
- ❑ Payment by credit card. Form PTO-2038 is attached.
- ❑ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)
- ❑ Applicant certifying micro entity status. See 37 CFR 1.29 — NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
- ❑ Applicant asserting small entity status. See 37 CFR 1.27 — NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
- ❑ Applicant changing to regular undiscounted fee status. — NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002, Page 44

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 11/20/2017

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2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	
ART UNIT	**PAPER NUMBER**
2695	

DATE MAILED: 11/20/2017

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 45

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/03/2017*.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on_____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are *21-34*. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/VAN CHOW/
Primary Examiner, Art Unit 2695

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	9552	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4))	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:00
L2	45	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (volts)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:00
L3	45	L2 and L1	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:00
L4	12	(inductive electroma$7) near5 stylus same volts	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:02
L5	29	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (high$voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:03
L6	77	(electromagnetic same stylus) same touch$4 and tip and electrodes and (high near3 voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:05
L7	194684	345/$.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:05
L8	31	L6 and L7	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:05
L9	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/11/06 11:05

L10	177782	electromagnetic near3 (signal$1 data)	US-PGPUB; USPAT	OR	OFF	2017/11/06 11:05
L11	3	L9 and L10	US-PGPUB; USPAT	OR	OFF	2017/11/06 11:05

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L13	2	((inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (volts)).clm.	US-PGPUB; USPAT	OR	OFF	2017/11/06 12:10

11/6/2017 12:11:36 PM
C:\Users\vpham\Documents\EAST\Workspaces\14516845b.wsp

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

CPC							
Symbol						**Type**	**Version**
G06F		3	/	0383		F	2013-01-01
G06F		1	/	26		I	2013-01-01
G06F		3	/	03545		I	2013-01-01
G06F		3	/	044		I	2013-01-01
G06F		2203	/	0384		A	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
			/					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	10	
/VAN CHOW/ Primary Examiner.Art Unit 2695	11/06/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION	
CLASS	SUBCLASS	CLAIMED	NON-CLAIMED
345	179	G 0 6 F 3 / 03 (2006.0)	

CROSS REFERENCE(S)					
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)				

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	10	
/VAN CHOW/ Primary Examiner.Art Unit 2695	11/06/2017	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	25														
2	26														
3	27														
4	28														
5	29														
6	30														
7	31														
8	32														
9	33														
10	34														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 10	
/VAN CHOW/ Primary Examiner.Art Unit 2695 (Primary Examiner)	11/06/2017 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	11/06/2017	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	11/06/2017	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	east and text search	11/06/2017	VC

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	October 17, 2014
Group Art Unit:	2695
Confirmation No.:	9862
Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.116 and

Request for Consideration under After Final Consideration Pilot 2.0 Program

In response to the final Office Action dated September 8, 2017, Applicant respectfully requests the Examiner to reconsider the Application in view of the following amendments and remarks, filed with a Request for Consideration under the After Final Consideration Pilot Program 2.0. Please amend the Application as follows.

OK TO ENTER: /V.N.C/

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 54

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $80 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $420 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT	11/03/2017	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0		x $80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

AMENDMENT		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	Vincent S Butler
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: A.NE.AFCP
Document Description: After Final Consideration Pilot Program Request

PTO/SB/434 (05-13)

CERTIFICATION AND REQUEST FOR CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0

Practitioner Docket No.:	Application No.:	Filing Date:
080900.2758	14/516,845	10/17/2014
First Named Inventor:	**Title:**	
Shahrooz Shahparnia	Active Stylus with High Voltage	

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS CONSIDERATION UNDER THE AFTER FINAL CONSIDERATION PILOT PROGRAM 2.0 (AFCP 2.0) OF THE ACCOMPANYING RESPONSE UNDER 37 CFR 1.116.

1. The above-identified application is (i) an original utility, plant, or design nonprovisional application filed under 35 U.S.C. 111(a) [a continuing application (*e.g.*, a continuation or divisional application) is filed under 35 U.S.C. 111(a) and is eligible under (i)], or (ii) an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).
2. The above-identified application contains an outstanding final rejection.
3. Submitted herewith is a response under 37 CFR 1.116 to the outstanding final rejection. The response includes an amendment to at least one independent claim, and the amendment does not broaden the scope of the independent claim in any aspect.
4. This certification and request for consideration under AFCP 2.0 is the only AFCP 2.0 certification and request filed in response to the outstanding final rejection.
5. Applicant is willing and available to participate in any interview requested by the examiner concerning the present response.
6. This certification and request is being filed electronically using the Office's electronic filing system (EFS-Web).
7. Any fees that would be necessary consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, extension of time fees, are being concurrently filed herewith. [There is no additional fee required to request consideration under AFCP 2.0.]
8. By filing this certification and request, applicant acknowledges the following:

- Reissue applications and reexamination proceedings are not eligible to participate in AFCP 2.0.
- The examiner will verify that the AFCP 2.0 submission is compliant, *i.e.*, that the requirements of the program have been met (see items 1 to 7 above). For compliant submissions:
  - The examiner will review the response under 37 CFR 1.116 to determine if additional search and/or consideration (i) is necessitated by the amendment and (ii) could be completed within the time allotted under AFCP 2.0. If additional search and/or consideration is required but cannot be completed within the allotted time, the examiner will process the submission consistent with current practice concerning responses after final rejection under 37 CFR 1.116, *e.g.*, by mailing an advisory action.
  - If the examiner determines that the amendment does not necessitate additional search and/or consideration, or if the examiner determines that additional search and/or consideration is required and could be completed within the allotted time, then the examiner will consider whether the amendment places the application in condition for allowance (after completing the additional search and/or consideration, if required). If the examiner determines that the amendment does not place the application in condition for allowance, then the examiner will contact the applicant and request an interview.
    - The interview will be conducted by the examiner, and if the examiner does not have negotiation authority, a primary examiner and/or supervisory patent examiner will also participate.
    - If the applicant declines the interview, or if the interview cannot be scheduled within ten (10) calendar days from the date that the examiner first contacts the applicant, then the examiner will proceed consistent with current practice concerning responses after final rejection under 37 CFR 1.116.

Signature	Date
	11/2/17
Name (Print/Typed)	**Practitioner Registration No.**
Bradley P. Williams	40,227

***Note**: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.*

☐ * Total of _____ forms are submitted.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	October 17, 2014
Group Art Unit:	2695
Confirmation No.:	9862
Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.116 and

Request for Consideration under After Final Consideration Pilot 2.0 Program

In response to the final Office Action dated September 8, 2017, Applicant respectfully requests the Examiner to reconsider the Application in view of the following amendments and remarks, filed with a Request for Consideration under the After Final Consideration Pilot Program 2.0. Please amend the Application as follows.

In the Claims:

1-20. (Cancelled)

21. (**Currently Amended**) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals ~~**resulting from**~~ **associated with** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus **[[tip]] tip;**

wherein the high-voltage signals result from the one or more electrodes receiving the high voltage.

22. (Previously Presented) The stylus of Claim 21, wherein the component is a transformer.

23. (Previously Presented) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (Previously Presented) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (Previously Presented) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

26. (Previously Presented) The stylus of Claim 25, wherein the object is least a part of a human hand.

27. (Previously Presented) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (**Currently Amended**) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals ~~**resulting from**~~ **associated with** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus **[[tip]]** **tip;**

wherein the high-voltage signals result from the one or more electrodes receiving the high voltage.

29. (Previously Presented) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (Previously Presented) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (Previously Presented) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (Previously Presented) The stylus of Claim 31, wherein the object is least a part of a human hand.

33. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

34. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (**Currently Amended**) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals ~~**resulting from**~~ **associated with** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus **[[tip]] tip;**

wherein the high-voltage signals result from the one or more electrodes receiving the high voltage.

36. (Previously Presented) The media of Claim 35, wherein the component is a transformer.

37. (Previously Presented) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor.

38. (Previously Presented) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

39. (Previously Presented) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 61

40. (Previously Presented) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

Remarks

This Application has been reviewed carefully in light of the final Office Action dated September 8, 2017. Applicant appreciates the Examiner's consideration of the Application. Although Applicant believes all claims are allowable without amendment, to advance prosecution Applicant has made clarifying amendments to independent Claims 21, 28, and 35. These amendments are not considered necessary for patentability. Applicant respectfully requests reconsideration and allowance of all pending claims.

Request for Interview

If the Examiner intends to issue a new Office Action in response to this submission, in the interest of compact and efficient prosecution, Applicant respectfully requests that the Examiner contact Applicant's attorney prior to issuing the new Office Action to discuss a possible resolution to any outstanding issues.

The Claims Comply with 35 U.S.C. § 112, Second Paragraph

The Office Action rejects Claims 21-40 under 35 U.S.C. § 112 (pre-AIA), second paragraph, as allegedly being indefinite. Applicant respectfully traverses these rejections and discusses independent Claim 21 as an example.

The Office Action alleges the following: "Voltage is a characteristic of a circuit component. It is not clear how a signal can be created by a high voltage." *Office Action* at 2. Although Applicant believes Claim 21 is clear as written, to advance prosecution Applicant has made clarifying amendments to Claim 21. As an example, Applicant has amended Claim 21 to recite "**wherein the high-voltage signals result from the one or more electrodes receiving the high voltage**."

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 21 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 28 and 35 and their respective dependent claims.

Allowable Subject Matter

Applicant appreciates the Examiner's indication that Claims 21-40 would be allowable if rewritten to overcome the 35 U.S.C. § 112 (pre-AIA), second paragraph, rejections. Although Applicant believes all claims are allowable without amendment, to expedite issuance of a patent from this Application, Applicant has amended independent Claims 21, 28, and 35 in an attempt to overcome the § 112 rejections. For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 21, 28, and 35 and their respective dependent claims.

Request for Evidentiary Support

Should a rejection based on any of these rejections be maintained, Applicant respectfully requests appropriate evidentiary support. Additionally, if the Examiner is relying on alleged "common knowledge," alleged "well known," principles, "Official Notice," or other information within the Examiner's personal knowledge to establish the rejection, Applicant requests the Office to cite a reference or provide an affidavit in support of this position. *See* M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

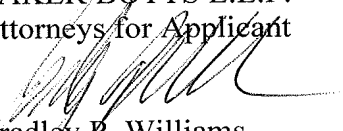
Conclusion

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact the undersigned Attorney for Applicant at the Examiner's convenience.

Although Applicant believes no fees are due, the Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicant



Bradley P. Williams
Reg. No. 40,227
Tel. 214.953.6447

Date: November 2, 2017

Correspondence Address

Customer No. 12323

Electronic Acknowledgement Receipt

EFS ID:	30847986
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Bethany R. Ford/Latoya Jenkins
Filer Authorized By:	Bethany R. Ford
Attorney Docket Number:	080900.2758
Receipt Date:	03-NOV-2017
Filing Date:	17-OCT-2014
Time Stamp:	12:17:16
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	After Final Consideration Program Request	0809002758-AFCP.pdf	81929 39d268253bb72e4689e8dc55a2822b9376e24036	no	1

Warnings:

Information:					
2		0809002758-Response.pdf	307879 89e561d44905c11d874e2584940e82837f2b6095	yes	9

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Response After Final Action	1	1
Claims	2	6
Applicant Arguments/Remarks Made in an Amendment	7	9

Warnings:	
Information:	
Total Files Size (in bytes):	389808

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 09/08/2017

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER
CHOW, VAN NGUYEN

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
09/08/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08/31/2017*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *21-40* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 69

Response to Arguments

1. The Final rejection mail on 07/06/2017 is vacated.

Claim Rejections - 35 USC § 112

2. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21-14 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

4. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Voltage is a characteristic of a circuit component. It is not clear how a signal can be created by a high voltage.

Allowable Subject Matter

5. Claims 21-40 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SRILAKSHMI KUMAR can be reached on 571-272-7769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	08/31/2017	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	08/31/2017	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
	east and text search	08/31/2017	VC

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	((stylus near8 high$voltage) same volts).clm.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:19
L3	9220	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4))	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:20
L4	45	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (volts)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:20
L5	45	L4 and L3	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:20
L6	39	L5 AND ((G06F3/044 OR G06F3/0416 OR G06F3/03545 OR G06F1/1605 OR G06F3/016 OR G06F3/0428 OR G06F3/043 OR G06F3/046 OR G06F1/26 OR G06F2203/0384 OR G06F3/0383 OR G06F1/3262 OR G06F2203/04111 OR G06F2203/04112 OR G06F2203/04807 OR G06F3/038 OR G06F3/041 OR G06F3/045 OR G06F1/169 OR G06F2203/04103 OR G06F2203/04104 OR G06F2203/04106 OR G06F3/033 OR G06F3/0412 OR G06F3/0414 OR G06F3/0488).CPC.)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:20
L7	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:25
L8	174073	electromagnetic near3 (signal$1 data)	US-PGPUB; USPAT	OR	OFF	2017/08/31 18:25
L9	3	L7 and L8	US-	OR	OFF	2017/08/31

			PGPUB; USPAT			18:25
L10	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:25
L11	7	L10 and volts	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:25
L12	74	(electromagnetic same stylus) same touch$4 and tip and electrodes and (high near3 voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2017/08/31 18:25

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	0	((stylus near8 high$voltage) same volts).clm.	US-PGPUB; USPAT	OR	OFF	2017/08/31 18:19

8/ 31/ 2017 6:27:19 PM
C:\ Users\ vpham\ Documents\ EAST\ Workspaces\ 14516845b.wsp

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 07/06/2017

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
07/06/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
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Status

1)☒ Responsive to communication(s) filed on *05/25/2017*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *21-40* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Response to Arguments

1. Applicant's amendment filed on 05/25/2017 necessitated the new ground(s) of rejection presented in this Office action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

4. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Voltage is a characteristic of a circuit component. It is not clear how a signal can be created by a high voltage.

Claim Rejections - 35 USC § 103

5. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 21, 23-27, 35, 38 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041) in view further Brunet et al. (US 2014/0049478).

Regarding claim 21, Harley et el. discloses a stylus comprising: one or more electrodes; one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to voltage within a voltage range of approximately 1 to 3 volts; (see figs. 1, pars. 44, 54, 60, 65 and 53, 71); a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip (see figs. 2, 7, the top surface of tip 202).

However, Harley et al. does not disclose the high-voltage signals resulting from a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts.

Brunet et al. par. 42, fig. 3 (high voltage source 48), fig. 5 (output high voltage on stylus tip 506), discloses high voltage source 48 represents a circuit operable to convert a low-voltage battery source to a high-voltage pulse output on active stylus tip 34. For example, in some embodiments, high voltage source 48 may output a voltage of up to 20V. Although a particular voltage is disclosed, it should be understood that any voltage operable to decrease the effective

charge of horizontal and vertical lines in proximity to active stylus tip 34 may be used. Switching device 52 may be operable to selectively output the high voltage source on stylus tip 34 in response to signals received from timing circuit 44.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage in Harley et al. as suggested by Brunet et al., the motivation being in order to have transmitted high voltage to the device.

Therefore, the combination of Harley et al. and Brunet et al., discloses a high-voltage signals resulting from a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts; and a component operable to convert the voltage the voltage of approximate 1 to 3 volts to the high voltage (see Harvey et al. figs. 1, pars. 44, 54, 60, 65 and 53, 71 Brunet et al. par. 42).

Regarding claim 23, the combination of Harley et al. and Brunet et al., discloses wherein the high voltage comprises a voltage within the voltage range of approximately 20 volts (see Brunet par. 42).

Regarding claim 24, the combination of Harley et al. and Brunet, discloses the stylus of claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device (Harley et al., pars. 35, 37).

Regarding claim 25, the combination of Harley et al. and Brunet, discloses the stylus of claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish: contact by an object other

than the stylus with the device; or a presence of the object near the touch sensor of the device (see Harley, figs. 1, 5, 10, 12-14).

Regarding claim 26, the combination of Harley et al. and Brunet, discloses the stylus of claim 25, wherein the object is least a part of a human hand (see Harley pars. 2-4, 28, 30, 41, 56, and 62).

Regarding claim 27, the combination of Harley et al. and Brunet discloses stylus of claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device (Harley, figs. 9, 11, pars. 61-63).

Regarding claims 35, 38, see rejection above of claims 21, 25, respectively.

7. Claims 22, and 36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041), and Brunet et al. (US 5657053) in view of Hargreaves et al. (US 20100315384).

Regarding claim 22, Harley et al. and Brunet, discloses the stylus of claim 21.

Harfreaves et al. discloses the high-voltage signals are produced by a transformer in the stylus (see fig. 2B, par. 44).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a transformer in the stylus in Harley et al. and Brunet as suggested by Hatfreaves et al., the motivation being in order to amplify the active pen signal.

Regarding claim 36, see rejection above of claim 22.

Allowable Subject Matter

8. Claims 37, 39, 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 28-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SRILAKSHMI KUMAR can be reached on 571-272-7769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015	02/04/2016	08/02/2016	12/30/2016	06/27/2017				
	21	✓	✓	✓	✓	✓				
	22	✓	✓	✓	✓	✓				
	23	✓	✓	✓	✓	✓				
	24	✓	✓	✓	✓	✓				
	25	✓	✓	✓	✓	✓				
	26	✓	✓	✓	✓	✓				
	27	✓	✓	✓	✓	✓				
	28	✓	✓	✓	=	✓				
	29	✓	✓	✓	=	✓				
	30	✓	✓	✓	=	✓				
	31	✓	✓	✓	=	✓				
	32	✓	✓	✓	=	✓				
	33	✓	✓	✓	=	✓				
	34	✓	✓	✓	=	✓				
	35	✓	✓	✓	✓	✓				
	36	✓	✓	✓	✓	✓				
	37	✓	✓	✓	O	✓				
	38	✓	✓	✓	✓	✓				
	39	✓	✓	✓	O	✓				
	40	✓	✓	✓	O	✓				

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	06/27/2017	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	06/27/2017	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT	OR	OFF	2017/06/27 13:11
L2	263742	(voltage near7 difference)	US-PGPUB; USPAT	OR	OFF	2017/06/27 13:11
L3	8	L1 and L2	US-PGPUB; USPAT	OR	OFF	2017/06/27 13:11
L4	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT	OR	OFF	2017/06/27 13:11
L5	41	4 AND ((G06F3/044 OR G06F3/03545 OR G06F3/0412 OR G06F2203/04104 OR G06F3/041 OR G06F3/0416 OR G06F3/046 OR G06F1/1652 OR G06F2203/04112 OR G06F1/1626 OR G06F2203/04111 OR G06F2203/04808 OR G06F3/0383 OR G06F3/0418 OR G06F3/04883 OR G06F1/1637 OR G06F1/169 OR G06F1/1692 OR G06F1/26 OR G06F2203/0384 OR G06F2203/04102 OR G06F2203/04107 OR	US-PGPUB; USPAT	OR	OFF	2017/06/27 13:12

		G06F3/04817 OR G06F3/0488 OR G06F1/1613 OR G06F1/1632 OR G06F1/1633 OR G06F1/1643 OR G06F1/1656 OR G06F1/1684 OR G06F1/1688 OR G06F1/30 OR G06F1/3203 OR G06F2200/1632 OR G06F2203/04101 OR G06F2203/04103 OR G06F2203/04105 OR G06F2203/04108 OR G06F3/013 OR G06F3/016 OR G06F3/03542 OR G06F3/038 OR G06F3/0414 OR G06F3/045 OR G06F3/047 OR G06F3/04845 OR G06F3/0487 OR G06F3/04886 OR G06F3/1423).CPC.)				

EAST Search History (Interference)

< This search history is empty>

6/ 27/ 2017 1:20:27 PM
C:\ Users\ vpham\ Documents\ EAST\ Workspaces\ 14516845.wsp

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 06/28/2017

Baker Botts L.L.P./Atmel Corporation
2001 Ross Avenue
SUITE 700
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
06/28/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

UNITED STATES DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
14/516,845	17 October, 2014	SHAHPARNIA ET AL.	080900.2758

		EXAMINER	
Baker Botts L.L.P./Atmel Corporation 2001 Ross Avenue SUITE 700 Dallas, TX 75201		VAN CHOW	
		ART UNIT	PAPER
		2695	20170623

DATE MAILED:

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner for Patents

An Office Action mailed on 01/05/2017 is vacated. A new Final Officce Action will be in due course while a new claims amendment filed on 04/05/2017 will be entered.

/VAN CHOW/
Primary Examiner, Art Unit 2695

PTO-90C (Rev.04-03)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	October 17, 2014
Group Art Unit:	2695
Confirmation No.:	9862
Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

OK TO ENTER: /V.N.C/

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.116

In response to the final Office Action dated January 5, 2017, Applicant respectfully requests the Examiner to reconsider this Application in view of the following amendments and remarks. Please amend the Application as follows.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 90

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CHOW, VAN NGUYEN	

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Baker Botts L.L.P./Atmel Corporation 2001 Ross Avenue SUITE 700 Dallas, TX 75201		VAN CHOW	
		ART UNIT	PAPER
		2695	20170623

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Primary Examiner, Art Unit 2695

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OK TO ENTER: /V.N.C/

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12323 7590 05/11/2017

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EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
05/11/2017	ELECTRONIC

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The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Advisory Action Before the Filing of an Appeal Brief	**Application No.** 14/516,845	**Applicant(s)** SHAHPARNIA ET AL.	
	Examiner VAN CHOW	**Art Unit** 2695	**AIA (First Inventor to File) Status** No

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 05 April 2017 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

NO NOTICE OF APPEAL FILED

1. ☐ The reply was filed after a final rejection. No Notice of Appeal has been filed. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance;

(2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114 if this is a utility or plant application. Note that RCEs are not permitted in design applications. The reply must be filed within one of the following time periods:

a) ☒ The period for reply expires *3* months from the mailing date of the final rejection.

b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action; or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

c) ☐ A prior Advisory Action was mailed more than 3 months after the mailing date of the final rejection in response to a first after-final reply filed within 2 months of the mailing date of the final rejection. The current period for reply expires months from the mailing date of *the prior Advisory Action* or SIX MONTHS from the mailing date of the final rejection, whichever is earlier.

Examiner Note: If box 1 is checked, check either box (a), (b) or (c). ONLY CHECK BOX (b) WHEN THIS ADVISORY ACTION IS THE FIRST RESPONSE TO APPLICANT'S FIRST AFTER-FINAL REPLY WHICH WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. ONLY CHECK BOX (c) IN THE LIMITED SITUATION SET FORTH UNDER BOX (c). See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) or (c) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☒ The proposed amendments filed after a final rejection, but prior to the date of filing a brief, will not be entered because
   a) ☒ They raise new issues that would require further consideration and/or search (see NOTE below);
   b) ☐ They raise the issue of new matter (see NOTE below);
   c) ☒ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
   d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

   NOTE: *See Continuation Sheet*. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).

5. ☐ Applicant's reply has overcome the following rejection(s): _____.

6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).

7. ☐ For purposes of appeal, the proposed amendment(s): (a) ☒ will not be entered, or (b) ☐ will be entered, and an explanation of how the new or amended claims would be rejected is provided below or appended.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

9. ☐ The affidavit or other evidence filed after final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).

10. ☐ The affidavit or other evidence filed after the date of filing the Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).

11. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

12. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:

_____.

13. ☐ Note the attached Information *Disclosure Statement*(s). (PTO/SB/08) Paper No(s). _____

14. ☐ Other: _____.

STATUS OF CLAIMS

15. The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: .
Claim(s) objected to: .
Claim(s) rejected: 21-40.
Claim(s) withdrawn from consideration: .

/VAN CHOW/
Primary Examiner, Art Unit 2695

Petitioner Shenzhen Qianhenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 95

Continuation of 3. NOTE: Applicant believed that claim 21 recites :"at least some of the signals comprising high-voltage signals resulting from a high voltage compring a relatively large potential different compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" is clear and to advance prosecution, which is incorrect. First of all, the amenment of claim 21 raise new issues that would require further consideration and/or search. Second of all, the claim 21 does not defined how high is the high voltage, claim 21 recites "approximately" 1 to "approximate" 3 volts, which could be any voltage because the claims recites "approximately", also it is not clear how a signal can be created by a "high voltage". Claim 21 is not over come the 112 2nd rejection.Even though, in the specification indicated that "An electrical circuit of the active stylus contaii a transformer capable of converting ordinary-operation voltage high voltage in the range of 10-20 volts, for examp approximately 12 volts", but the claim needs to define the high voltage. Moreover, Applicant argued that Brunet 2014/0049478 is not quality as prior art which is correct. However, Claims are not overcome the rejection of 112 2nd as the Final Office Action. And further the claims are amended in the After Final which is not entered.

To further assist the Applicant with the guidance with claim language interpretations so that the Applicant can add further/more details limitations from the specification to the claims to overcome the prior arts, the Examiner is presenting MPEP, section 2111, Claim Interpretation; Broadest Reasonable Interpretation as follow: “The court explained that “reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim.” The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997) (The court held that the PTO is not required, in the course of prosecution, to interpret claims in applications in the same manner as a court would interpret claims in an infringement suit. Rather, the “PTO applies to verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in applicant's specification.”)”.

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Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

DO NOT ENTER: /V.N.C/

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Response under 37 C.F.R. § 1.116

In response to the final Office Action dated January 5, 2017, Applicant respectfully requests the Examiner to reconsider this Application in view of the following amendments and remarks. Please amend the Application as follows.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 97

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **04/05/2017**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
DELEACHES YOUNG

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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Filing Date:	October 17, 2014
Group Art Unit:	2695
Confirmation No.:	9862
Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.116

In response to the final Office Action dated January 5, 2017, Applicant respectfully requests the Examiner to reconsider this Application in view of the following amendments and remarks. Please amend the Application as follows.

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Electronic Acknowledgement Receipt

EFS ID:	28845492
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Chad D Terrell/Latoya Jenkins
Filer Authorized By:	Chad D Terrell
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Application Type:	Utility under 35 USC 111(a)

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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		0809002758-Response.pdf	638413 cc7267e9123853d06417b8298dd14f2d210c3602	yes	13

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	6	13
	Claims	2	5
	Response After Final Action	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	638413	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Remarks

This Application has been reviewed carefully in light of the final Office Action dated January 5, 2017. Applicant appreciates the Examiner's consideration of the Application. Although Applicant believes all claims are allowable without amendment, to advance prosecution Applicant has made a clarifying amendment to Claims 21, 28, and 35. These amendments are not considered necessary for patentability. Additionally, these amendments are not made in response to or necessitated by any cited reference or combination of cited references. Applicant respectfully requests reconsideration and allowance of all pending claims.

Interview Summary and Request for Subsequent Interview

Applicant's attorney, Kim Owen (Reg. No. 74,933), a colleague of the undersigned, conducted a telephone interview with Examiner Chow on April 4, 2017. Applicant's attorney initiated the interview and thanks the Examiner for the courtesy of the interview. Applicant submits this summary of the telephone interview to record Applicant's attorney's understanding of the substance of the interview. *See* M.P.E.P. § 713.04. If Applicant's attorney's understanding is inaccurate, notice of such would be appreciated.

35 U.S.C. § 103(a) Rejection

During the interview, the participants discussed the rejection of Claims 21, 23-27, 35, and 38 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2012/0327041 ("*Harley*") in view of U.S. Patent Application Publication No. 2014/0049478 ("*Brunet*").[1] Specifically, the participants discussed an argument presented by Applicant in the Response to Non-final Office Action dated November 15, 2016 (the

[1] The Office Action actually lists the rejection as being under 35 U.S.C. § 102(b) and alleges that these claims are "anticipated by" *Harley* in view of *Brunet*. The Office Action further associates *Brunet* with the U.S. Patent Number for *Files* (i.e., "Brunet et al. (US 5657053"). Given that the Office Action provides a heading of "Claim Rejections - 35 USC § 103," reproduces the language of pre-AIA 35 U.S.C. § 103(a), and rejects the claims based on a combination of references, Applicant assumes that the listing of the rejections in paragraph 3 of the Office Action was a typographical error and that the Office actually intended to reject the claims under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* in view of *Brunet*. Applicant also assumes that the U.S. Patent Application Publication Number for *Brunet*, which was not provided in the Office Action, is 2014/00049478. If either of Applicant's assumptions are incorrect, notice of such would be appreciated.

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"Preceding Response"). The argument, which was not addressed in the current Office Action, stated that the Office Action does not establish a *prima facie* case of obviousness at least because *Brunet* does not qualify as prior art under pre-AIA 35 U.S.C. § 102. *See Preceding Response* at 10. During the interview, the Examiner agreed that *Brunet* does not qualify as prior art and that the *Harley-Brunet* combination is improper. Applicant appreciates this acknowledgment.

35 U.S.C. § 112 Rejections

During the interview, the Examiner indicated that the claims would be allowable if amended to overcome the rejections under 35 U.S.C. § 112, second paragraph, as set forth in the Office Action. Applicant proposed an amendment to the Examiner to address the 35 U.S.C. § 112, second paragraph, rejection, and the Examiner indicated that the proposed amendment did not resolve a previously presented 35 U.S.C. § 112, first paragraph, rejection set forth in a Non-final Office Action dated August 15, 2016. Applicant already addressed that previously-asserted rejection under 35 U.S.C. § 112, first paragraph, in the Preceding Response, and because the current Final Office Action did not reassert those 112, first paragraph, rejections, Applicant considered those rejections resolved. If the Examiner intends to reissue the 35 U.S.C. § 112, first paragraph, rejection, Applicant respectfully requests that this rejection be made in a newly issued final Office Action.

Applicant, however, respectfully submits that the 112, first paragraph, rejection should not be reintroduced at least for the reasons set forth in the Preceding Response, which are reproduced below:

> The Office Action rejects Claims 21-40 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. Applicant respectfully traverses these rejections.
>
> The Office Action alleges that "[t]he claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." *Office Action* at 2. The Office Action further alleges the following: "A high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to 3 volts, Is not clear how large is a large? Therefore, the high voltage is not clear." *Id.* Applicant respectfully disagrees.
>
> "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with the

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information known in the art without undue experimentation." M.P.E.P. § 2164.01 citing *United States v. Teletronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). "Compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, does not turn on whether an example is disclosed." M.P.E.P. § 2164.02. All that is required is that the "information contained in the disclosure of an application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention." M.P.E.P. § 2164. Detailed procedures for making and using the invention may not be necessary if the description is sufficient to permit those skilled in the art to make and use the invention. *See* M.P.E.P. § 2164.

Applicant respectfully submits that, at a minimum, the Specification provides sufficient information and detail to enable one of ordinary skill in the art at the time of invention to make and use the claimed invention.[2] Taking independent Claim 21 as an example, the Specification describes the term "high voltage" in at least paragraph 41:

> [0041] In particular embodiments, an active stylus may have one or more components, such as a transformer or charge pump, capable of producing substantially high voltage. Herein, **high voltage indicates a relatively large potential difference compared to voltages used by an active stylus in normal operation, whether the relatively large potential difference is positive or negative. As an example, an active stylus produces voltage of approximately 1-3 volts while in normal operation. An electrical circuit of the active stylus contains a transformer capable of converting ordinary-operation voltage to high voltage in the range of 10-20 volts, for example approximately 12 volts.** In particular embodiments, the high voltage produced by an active stylus is used to power components of the active stylus, such as one or more electrodes. As an example, a tip of an active stylus may have a substrate on which one or more electrodes are placed. High voltage may be delivered to the one or more electrodes. The one or more electrodes may transmit high-voltage signals to a device, such as a touch-sensitive device. As an example, FIGS. 6A and 6B illustrate one or more electrodes in tip 26 of active stylus 20 transmitting high voltage signals that communicate the stylus's relative location or movement to touch-sensitive device 52.

At least this cited portion of Applicant's Specification would enable one of ordinary skill in the art to make and use the claimed features relating to "a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts,"

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[2] The portions of Applicant's Specification referenced in this section are cited as examples of support only. Other portions of Applicant's Specification also may enable and/or contribute to the enablement of the rejected claims. Additionally, the embodiments described/illustrated in the cited portions of the Application are example embodiments only.

> the language identified by the Office Action.
>
> For at least these reasons, Applicant respectfully submits that rejected Claims 21-40 are enabled, and respectfully requests reconsideration and allowance of Claims 21-40.

Response to Non-Final Office Action at 6-8. In the event the Office reissues the 35 U.S.C. § 112, first paragraph, rejection, Applicant respectfully requests that the Office address these arguments.

If the Examiner intends to issue a new Office Action in response to this submission, in the interest of compact and efficient prosecution, Applicant respectfully requests that the Examiner contact Applicant's attorney prior to issuing the new Office Action to discuss a possible resolution to any outstanding issues.

The Claims Comply with 35 U.S.C. § 112, Second Paragraph

The Office Action rejects Claims 21-40 under 35 U.S.C. § 112 (pre-AIA), second paragraph, as allegedly being indefinite. Applicant discusses independent Claim 21 as an example.

The Office Action alleges the following: "Voltage is a characteristic of a circuit component. It is not clear how a signal can be created by a high voltage." *Office Action* at 2. Although Applicant believes Claim 21 is clear as written, to advance prosecution Applicant has made a clarifying amendment to Claim 21 to recite "at least some of the signals comprising high-voltage signals **resulting from** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" to advance prosecution.

Although this amendment is submitted in a response after final, Applicant respectfully requests that the amendments be entered for the following reasons.

First, the current Final Office Action rejects the claims under 35 U.S.C. § 112 (pre-AIA), second paragraph, a rejection that was not made in the previous Non-final Office Action. In the Preceding Response, Applicant did not amend any claims. Thus, the final Office Action presents a new ground of rejection of an unamended claim and therefore should not have been

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made final, meaning that Applicant should have been able to amend the claims as a matter of right in a response under 37 C.F.R. § 1.111.

Second, even if the Office were to insist that the finality of the current rejection is proper, Applicant respectfully submits that the amendments should be entered for at least the following good and sufficient reasons why the amendments are necessary and were not presented earlier, and respectfully requests the Office to enter the amendments. *See* 37 C.F.R. § 1.116(b)(3) ("An amendment [after final action] touching the merits of the application or patent under reexamination may be admitted upon a showing of good and sufficient reasons why the amendment is necessary and was not earlier presented."). Applicant reiterates that the current Final Office Action rejects unamended claims under new grounds (i.e., 35 U.S.C. § 112 (pre-AIA), second paragraph.) This final Office Action provides the first time Applicant was made aware of these rejections. Thus, Applicant had no earlier opportunity to address these rejections, which did not result from any amendment made by Applicant in the Preceding Response. Additionally, while Applicant believes the claims are clear as written, these amendments are made to advance prosecution and are believed to obviate a rejection made by the Examiner. Thus, even if the Office were to maintain the finality of the current Office Action, for at least these good and sufficient reasons Applicant respectfully submits that the amendments presented in this Response should be entered and requests that the Office enter the amendments.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 21 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 28 and 35 and their respective dependent claims.

Claims 21, 22-27, 35-36, and 38 are Allowable over the *Harley-Brunet* Combination at least because *Brunet* does not Qualify as Prior Art under 35 U.S.C. § 102

The Office Action rejects Claims 21, 23-27, 35, and 38 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* in view of *Brunet*. As mentioned above in the Interview Summary, the Examiner acknowledges that *Brunet* does not qualify as prior art under pre-AIA 35 U.S.C. § 102. Thus, at least because one of the references used as part of the

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§ 103(a) rejection does not qualify as prior art under § 102, the Office Action has not established a *prima facie* case of obviousness. For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 21 and 35 and their respective dependent claims.

The Separately-Rejected Claims are Allowable over the Proposed *Harley-Brunet-Hargreaves* Combination

The Office Action rejects dependent Claims 22 and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* and *Brunet* in view of U.S. Patent Publication No. 2010/0315384 ("*Hargreaves*"). Applicant respectfully traverses the rejections.

Claims 22 and 36 depend from independent Claims 21 and 35, respectively, which Applicant has shown above to be allowable over the proposed *Harley-Brunet* combination, and are allowable for at least this reason. Additionally, dependent Claims 22 and 36 recite further patentable features. To avoid burdening the record and in view of the allowability of independent Claims 21 and 36 for at least the above-discussed reasons, Applicant does not discuss the additional patentable features in this Response. Applicant reserves the right to discuss these features in a future submission, if appropriate. Moreover, Applicant does not admit that the proposed *Harley-Brunet* combination or the proposed *Harley-Brunet-Hargreaves* combination is possible or that the Office Action has provided an adequate reason for combining *Harley* and *Brunet* or *Harley*, *Brunet*, and *Hargreaves* in the manner proposed. To avoid burdening the record, Applicant does not address this issue in this submission. Applicant reserves the right to discuss these features in a future submission, if appropriate.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claims 22 and 36.

Allowable Subject Matter

The Office Action indicates that Claims 37, 39, and 40 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, second paragraph, set forth in the Office Action, and to include all of the limitations of the base claim and any intervening claims. The Office Action further indicates that Claims 28-34 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph, as set forth in the Office

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Action, and to include all of the limitations of the base claim and any intervening claims. Applicant appreciates these indications and amends independent Claim 28 to address the 35 U.S.C. § 112, second paragraph, rejection. For at least these reasons, Applicant respectfully submits that Claim 28 and its dependent claims are in condition for allowance.

Request for Evidentiary Support

Should a rejection based on any of these rejections be maintained, Applicant respectfully requests appropriate evidentiary support. Additionally, if the Examiner is relying on alleged "common knowledge," alleged "well known," principles, "Official Notice," or other information within the Examiner's personal knowledge to establish the rejection, Applicant requests the Office to cite a reference or provide an affidavit in support of this position. *See* M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

No Waiver

Applicant's arguments and amendments are made without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later submission, if appropriate. By not responding to additional statements made in the Office Action, Applicant does not acquiesce to the additional statements.

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Conclusion

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicant, at the Examiner's convenience.

Although Applicant believes no fees are due, the Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicant

Chad D. Terrell
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Tel. 214.953.6813

Date: April 5, 2017

Correspondence Address

Customer No. 12323

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In the Claims:

1-20. (Cancelled)

21. (**Currently Amended**) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals ~~**generated at least in part by**~~ **resulting from** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

22. (Previously Presented) The stylus of Claim 21, wherein the component is a transformer.

23. (Previously Presented) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (Previously Presented) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (Previously Presented) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

26. (Previously Presented) The stylus of Claim 25, wherein the object is least a part of a human hand.

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27. (Previously Presented) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (**Currently Amended**) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals ~~**generated at least in part by**~~ **resulting from** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

29. (Previously Presented) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (Previously Presented) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (Previously Presented) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (Previously Presented) The stylus of Claim 31, wherein the object is least a part of a human hand.

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33. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

34. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (**Currently Amended**) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals ~~**generated at least in part by**~~ **resulting from** a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

36. (Previously Presented) The media of Claim 35, wherein the component is a transformer.

37. (Previously Presented) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor.

38. (Previously Presented) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

39. (Previously Presented) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

40. (Previously Presented) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 01/05/2017

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EXAMINER
CHOW, VAN NGUYEN

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
01/05/2017	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
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Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/15/2016*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☒ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *21-40* is/are rejected.

8)☒ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Response to Arguments

1. Applicant argued the claims 28, 33, 37, 39, 34, 40 are persuasive, however, claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph.

Noted, Applicant was silent about claims 21-27, 35, 36, 38. See rejection below.

Claim Rejections - 35 USC § 112

2. The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

4. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Voltage is a characteristic of a circuit component. It is not clear how a signal can be created by a high voltage.

Claim Rejections - 35 USC § 103

5. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 21, 23-27, 35, 38 are rejected under pre-AIA 35 U.S.C. 102 (b) as being anticipated by Harley et al. (US 20120327041) in view further Brunet et al. (US 5657053).

Regarding claim 21, Harley et el. discloses a stylus comprising: one or more electrodes; one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to voltage within a voltage range of approximately 1 to 3 volts; (see figs. 1, pars. 44, 54, 60, 65 and 53, 71); a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip (see figs. 2, 7, the top surface of tip 202).

Brunet et al. par. 42 discloses high voltage source 48 represents a circuit operable to convert a low-voltage battery source to a high-voltage pulse output on active stylus tip 34. For example, in some embodiments, high voltage source 48 may output a voltage of up to 20V. Although a particular voltage is disclosed, it should be understood that any voltage operable to decrease the effective charge of horizontal and vertical lines in proximity to active stylus tip 34 may be used. Switching device 52 may be operable to selectively output the high voltage source on stylus tip 34 in response to signals received from timing circuit 44.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a component operable to convert the voltage of approximately 1

to 3 volts to the high voltage in Harley et al. as suggested by Brunet et al., the motivation being in order to have transmitted high voltage to the device.

The combination of Harley et al. and Brunet et al., discloses a component operable to convert the voltage the voltage of approximate 1 to 3 volts to the high voltage (see Harvey et al. figs. 1, pars. 44, 54, 60, 65 and 53, 71 Brunet et al. par. 42).

Regarding claim 23, the combination of Harley et al. and Brunet et al., discloses wherein the high voltage comprises a voltage within the voltage range of approximately 20 volts (see Brunet par. 42).

Regarding claim 24, the combination of Harley et al. and Brunet discloses the stylus of claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device (Harley et al., pars. 35, 37).

Regarding claim 25, the combination of Harley et al. and Brunet discloses the stylus of claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish: contact by an object other than the stylus with the device; or a presence of the object near the touch sensor of the device (see Harley, figs. 1, 5, 10, 12-14).

Regarding claim 26, the combination of Harley et al. and Brunet discloses the stylus of claim 25, wherein the object is least a part of a human hand (see Harley pars. 2-4, 28, 30, 41, 56, and 62).

Regarding claim 27, the combination of Harley et al. and Brunet discloses stylus of claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device (Harley, figs. 9, 11, pars. 61-63).

Regarding claims 35, 38, see rejection above of claims 21, 25, respectively.

7. Claims 22, and 36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041), and Brunet et al. (US 5657053) in view of Hargreaves et al. (US 20100315384).

Regarding claim 22, Harley et al. and Brunet, discloses the stylus of claim 21.

Harfreaves et al. discloses the high-voltage signals are produced by a transformer in the stylus (see fig. 2B, par. 44).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a transformer in the stylus in Harley et al. and Brunet as suggested by Hatfreaves et al., the motivation being in order to amplify the active pen signal.

Regarding claim 36, see rejection above of claim 22.

Allowable Subject Matter

8. Claims 37, 39, 40 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. Claims 28-34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SRILAKSHMI KUMAR can be reached on 571-272-7769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	194405	"345"/$.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L2	215	(stylus) near10 (volts)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L3	29	L2 and L1	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L4	13	("7920129" | "8040326" | "20120242588" | "20090315854" | "7663607" | "8031174" | "8049732" | "20120242592" | "20120243151" | "8179381" | "8031094" | "20120243719" | "7875814").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L5	1	(high$voltage high-voltage) and L4	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L6	13	("7920129" | "8040326" | "20120242588" | "20090315854" | "7663607" | "8031174" | "8049732" | "20120242592" | "20120243151" | "8179381" | "8031094" | "20120243719" | "7875814").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L7	24	(stylus) near10 (high$voltage high-voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L8	10	L7 and L1	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L9	24	(stylus) near10 (high$voltage high-voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35
L10	40	(stylus) near19 (high$voltage high-voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/12/30 02:35

EAST Search History (Interference)

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12/30/2016 2:37:19 AM
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	12/30/2016	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	12/30/2016	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015	02/04/2016	08/02/2016	12/30/2016					
	21	✓	✓	✓	✓					
	22	✓	✓	✓	✓					
	23	✓	✓	✓	✓					
	24	✓	✓	✓	✓					
	25	✓	✓	✓	✓					
	26	✓	✓	✓	✓					
	27	✓	✓	✓	✓					
	28	✓	✓	✓	=					
	29	✓	✓	✓	=					
	30	✓	✓	✓	=					
	31	✓	✓	✓	=					
	32	✓	✓	✓	=					
	33	✓	✓	✓	=					
	34	✓	✓	✓	=					
	35	✓	✓	✓	✓					
	36	✓	✓	✓	✓					
	37	✓	✓	✓	O					
	38	✓	✓	✓	✓					
	39	✓	✓	✓	O					
	40	✓	✓	✓	O					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	October 17, 2014
Group Art Unit:	2695
Confirmation No.:	9862
Examiner:	Van Nguyen Chow
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.111

In response to the non-final Office Action dated August 15, 2016, Applicant respectfully requests the Examiner to reconsider this Application in view of the following remarks.

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The Claims:

1-20. (Cancelled)

21. (Previously Presented) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

22. (Previously Presented) The stylus of Claim 21, wherein the component is a transformer.

23. (Previously Presented) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (Previously Presented) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (Previously Presented) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

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26. (Previously Presented) The stylus of Claim 25, wherein the object is least a part of a human hand.

27. (Previously Presented) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (Previously Presented) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

29. (Previously Presented) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (Previously Presented) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (Previously Presented) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (Previously Presented) The stylus of Claim 31, wherein the object is least a part of a human hand.

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33. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

34. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (Previously Presented) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

36. (Previously Presented) The media of Claim 35, wherein the component is a transformer.

37. (Previously Presented) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor.

38. (Previously Presented) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

39. (Previously Presented) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

40. (Previously Presented) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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Remarks

This Application has been reviewed carefully in light of the non-final Office Action dated August 15, 2016. Applicant appreciates the Examiner's consideration of the Application. Applicant believes all claims are allowable without amendment and respectfully provides the following remarks. Applicant respectfully requests reconsideration and allowance of all pending claims.

Request for Interview

If the Examiner intends to issue a new Office Action in response to this submission, in the interest of compact and efficient prosecution, Applicant respectfully requests that the Examiner contact Applicant's attorney prior to issuing the new Office Action to discuss a possible resolution to any outstanding issues.

The Claims Comply with 35 U.S.C. § 112, First Paragraph

The Office Action rejects Claims 21-40 under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. Applicant respectfully traverses these rejections.

The Office Action alleges that "[t]he claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." *Office Action* at 2. The Office Action further alleges the following: "A high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to 3 volts, Is not clear how large is a large? Therefore, the high voltage is not clear." *Id.* Applicant respectfully disagrees.

"The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with the information known in the art without undue experimentation." M.P.E.P. § 2164.01 citing *United States v. Teletronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). "Compliance with the enablement requirement of 35 U.S.C. 112, first paragraph, does not turn on whether an example is disclosed." M.P.E.P. § 2164.02. All that is required is that the "information contained in the disclosure of an

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application must be sufficient to inform those skilled in the relevant art how to both make and use the claimed invention." M.P.E.P. § 2164. Detailed procedures for making and using the invention may not be necessary if the description is sufficient to permit those skilled in the art to make and use the invention. *See* M.P.E.P. § 2164.

Applicant respectfully submits that, at a minimum, the Specification provides sufficient information and detail to enable one of ordinary skill in the art at the time of invention to make and use the claimed invention.[1] Taking independent Claim 21 as an example, the Specification describes the term "high voltage" in at least paragraph 41:

> [0041] In particular embodiments, an active stylus may have one or more components, such as a transformer or charge pump, capable of producing substantially high voltage. Herein, **high voltage indicates a relatively large potential difference compared to voltages used by an active stylus in normal operation, whether the relatively large potential difference is positive or negative. As an example, an active stylus produces voltage of approximately 1-3 volts while in normal operation. An electrical circuit of the active stylus contains a transformer capable of converting ordinary-operation voltage to high voltage in the range of 10-20 volts, for example approximately 12 volts.** In particular embodiments, the high voltage produced by an active stylus is used to power components of the active stylus, such as one or more electrodes. As an example, a tip of an active stylus may have a substrate on which one or more electrodes are placed. High voltage may be delivered to the one or more electrodes. The one or more electrodes may transmit high-voltage signals to a device, such as a touch-sensitive device. As an example, FIGS. 6A and 6B illustrate one or more electrodes in tip 26 of active stylus 20 transmitting high voltage signals that communicate the stylus's relative location or movement to touch-sensitive device 52.

At least this cited portion of Applicant's Specification would enable one of ordinary skill in the art to make and use the claimed features relating to "a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts," the language identified by the Office Action.

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[1] The portions of Applicant's Specification referenced in this section are cited as examples of support only. Other portions of Applicant's Specification also may enable and/or contribute to the enablement of the rejected claims. Additionally, the embodiments described/illustrated in the cited portions of the Application are example embodiments only.

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For at least these reasons, Applicant respectfully submits that rejected Claims 21-40 are enabled, and respectfully requests reconsideration and allowance of Claims 21-40.

Claims 21, 23-28, 30-35, and 37-40 are Allowable over the *Harley-Brunet* Combination

The Office Action rejects Claims 21, 23-28, 30-35, and 37-40 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2012/0327041 ("*Harley*") in view of U.S. Patent Application Publication No. 2014/0049478 ("*Brunet*").[2] Applicant respectfully traverses these rejections.

The Rejections for Independent Claim 28 and Dependent Claims 33, 34, 37, 39, and 40 are Deficient

The Office Action does not address Applicant's arguments for independent Claim 28 and dependent Claims 33, 34, 37, and 39-40 from Applicant's preceding Response submitted July 18, 2016 (the "Preceding Response"). As an example, in the Preceding Response, Applicant did not amend independent Claim 28, but rather argued that "the Office Action has not established that the proposed *Harley-Files* combination discloses, teaches, or suggests 'the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor,' as recited in independent Claim 28." *Preceding Response* at 7. Rather than addressing Applicant's argument, the Office Action changes the ground of rejection from the *Harley-Files* combination to a *Harley-Brunet* combination without explanation. While the Office Action changed the ground of rejection to include *Brunet* rather than *Files*, the Office Action does not appear to rely on the *Brunet* reference for any feature of Claim 28, let alone the particular features of Claim 28 argued by Applicant in the Preceding Response.

[2] The Office Action actually lists the rejection as being under 35 U.S.C. § 102(b) and alleges that these claims are "anticipated by" *Harley* in view of *Brunet*. The Office Action further associates *Brunet* with the U.S. Patent Number for *Files* (i.e., "Brunet et al. (US 5657053"). Given that the Office Action provides a heading of "Claim Rejections - 35 USC § 103," reproduces the language of pre-AIA 35 U.S.C. § 103(a), and rejects the claims based on a combination of references, Applicant assumes that the listing of the rejections in paragraph 3 of the Office Action was a typographical error and that the Office actually intended to reject the claims under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* in view of *Brunet*. Applicant also assumes that the U.S. Patent Application Publication Number for *Brunet*, which was not provided in the Office Action, is 2014/00049478. If either of Applicant's assumptions are incorrect, notice of such would be appreciated.

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At least because the Office Action does not appear to address Applicant's arguments from the Preceding Response, Applicant respectfully submits that it would be improper for a next action, should one be issued, to be made final. *See, e.g.,* M.P.E.P. § 707.07(f) ("Where the applicant traverses any rejections, the examiner should, if he or she repeats the rejections, take note of the applicant's argument and answer the substance of it.") (emphasis added). For the Examiner's convenience, Applicant reproduces the arguments for independent Claim 28 and dependent Claims 33, 34, 37, and 39-40 below.

Independent Claim 28 and Dependent Claim 37

At a minimum, the Office Action has not established that the previously proposed *Harley-Files* combination (or the currently proposed *Harley-Brunet* combination) discloses, teaches, or suggests "the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor," as recited in independent Claim 28. The Office Action does not appear to address this claim language. *See Office Action* at 5. For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 28 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 37.

Dependent Claims 33 and 39

At a minimum, the Office Action has not established that the previously proposed *Harley-Files* combination (or the currently proposed *Harley-Brunet* combination) discloses, teaches, or suggests "wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor," as recited in dependent Claim 33. The Office Action does not address this claim language. *See Office Action* at 5. Thus, for at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 33. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 39.

Dependent Claims 34 and 40

At a minimum, the Office Action has not established that the previously proposed *Harley-Files* combination (or the currently proposed *Harley-Brunet* combination) discloses,

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teaches, or suggests "wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor," as recited in dependent Claim 34. The Office Action does not address this claim language. *See Office Action* at 5. Thus, for at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 34. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 40.

The Claims are Allowable over the Combinations Including *Brunet* at least because *Brunet* does not Qualify as Prior Art under 35 U.S.C. § 102

All of Applicant's independent claims are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over a proposed combination of *Harley* and *Brunet*. However, Applicant respectfully submits that the Office Action does not establish a *prima facie* case of obviousness at least because *Brunet* does not qualify as prior art under pre-AIA 35 U.S.C. § 102.

The present application is a continuation U.S. Patent Application No. 13/362,830, filed January 31, 2012 (which claims priority to U.S. Provisional Application 61/553,114, filed October 28, 2011). Thus, the effective filing date of the present application is at least January 31, 2012, and possibly is October 28, 2011. *Brunet* was filed on August 15, 2012, and was published on February 20, 2014. At least because the effective filing date of the present application (whether based on the parent application or the provisional application) is prior to the publication date of *Brunet*, *Brunet* does not qualify as prior art under 102(a) or 102(b). *See, e.g.,* M.P.E.P. § 706.02(a)(2)(IV) ("For pre-AIA 35 U.S.C. 102(a) to apply, the reference must have a publication date earlier in time than the effective filing date of the application . . . ."). Additionally, at least because the filing date of *Brunet* is after the effective filing date of the present application, *Brunet* does not qualify as prior art under 35 U.S.C. § 102(e).

Thus, at least because one of the references used as part of the § 103(a) rejection does not qualify as prior art under § 102, the Office Action has not established a *prima facie* case of obviousness. For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 21, 28, and 35 and their respective dependent claims.

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The Separately-Rejected Claims are Allowable over the Proposed *Harley-Brunet-Hargreaves* Combination

The Office Action rejects dependent Claims 22, 29, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* and *Brunet* in view of U.S. Patent Publication No. 2010/0315384 ("*Hargreaves*"). Applicant respectfully traverses the rejections.

Claims 22, 29, and 36 depend from independent Claims 21, 28, and 35, respectively, which Applicant has shown above to be allowable over the proposed *Harley-Brunet* combination, and are allowable for at least this reason. Additionally, dependent Claims 22, 29, and 36 recite further patentable features. To avoid burdening the record and in view of the allowability of independent Claims 21, 28, and 35 for at least the above-discussed reasons, Applicant does not discuss the additional patentable features in this Response. Applicant reserves the right to discuss these features in a future submission, if appropriate. Moreover, Applicant does not admit that the proposed *Harley-Brunet* combination or the proposed *Harley-Brunet-Hargreaves* combination is possible or that the Office Action has provided an adequate reason for combining *Harley* and *Brunet* or *Harley*, *Brunet*, and *Hargreaves* in the manner proposed. To avoid burdening the record, Applicant does not address this issue in this submission. Applicant reserves the right to discuss these features in a future submission, if appropriate.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claims 22, 29, and 36.

Request for Evidentiary Support

Should a rejection based on any of these rejections be maintained, Applicant respectfully requests appropriate evidentiary support. Additionally, if the Examiner is relying on alleged "common knowledge," alleged "well known," principles, "Official Notice," or other information within the Examiner's personal knowledge to establish the rejection, Applicant requests the Office to cite a reference or provide an affidavit in support of this position. *See* M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
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No Waiver

Applicant's arguments are made without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later submission, if appropriate. By not responding to additional statements made in the Office Action, Applicant does not acquiesce to the additional statements.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
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Conclusion

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicant, at the Examiner's convenience at (214) 953-6813.

Although Applicant believes no fees are due, the Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicant

Chad D. Terrell
Reg. No. 52,279
Tel. 214.953.6813

Date: November 15, 2016

Correspondence Address

Customer No. 12323

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 138

Electronic Acknowledgement Receipt

EFS ID:	27522770
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Bethany R. Ford/Latoya Jenkins
Filer Authorized By:	Bethany R. Ford
Attorney Docket Number:	080900.2758
Receipt Date:	15-NOV-2016
Filing Date:	17-OCT-2014
Time Stamp:	19:50:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		08090002758-Response.pdf	594714 b2d4617aacc6d227fdcd93e50dbd9cd8aa841d84	yes	13

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	13
Warnings:			
Information:			
	Total Files Size (in bytes):	594714	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **11/15/2016**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
ANTHONY WILLIAMS

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 08/15/2016

Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
08/15/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/18/2016*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *21-40* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
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Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/18/2016 has been entered.

Claim Rejections - 35 USC § 112

2. Claims 21-40 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

3. Claim 1 recites "high-voltage signals generated at least in part by a high voltage", which is vague. What is high voltage? How large is the high voltage? A high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to 3 volts, Is not clear how large is a large? Therefore, the high voltage is not clear.

Claim Rejections - 35 USC § 103

4. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 21, 23-28, 30-35, 37-40 are rejected under pre-AIA 35 U.S.C. 102 (b) as being anticipated by Harley et al. (US 20120327041) in view further Brunet et al. (US 5657053).

Regarding claim 21, Harley et el. discloses a stylus comprising: one or more electrodes; one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to voltage within a voltage range of approximately 1 to 3 volts; (see figs. 1, pars. 44, 54, 60, 65 and 53, 71); a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip (see figs. 2, 7, the top surface of tip 202).

Brunet et al. par. 42 discloses high voltage source 48 represents a circuit operable to convert a low-voltage battery source to a high-voltage pulse output on active stylus tip 34. For example, in some embodiments, high voltage source 48 may output a voltage of up to 20V. Although a particular voltage is disclosed, it should be understood that any voltage operable to decrease the effective charge of horizontal and vertical lines in proximity to active stylus tip 34 may be used. Switching device 52 may be operable to selectively output the high voltage source on stylus tip 34 in response to signals received from timing circuit 44.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage in Harley et al. as suggested by Brunet et al., the motivation being in order to have transmitted high voltage to the device.

The combination of Harley et al. and Brunet et al., discloses a component operable to convert the voltage the voltage of approximate 1 to 3 volts to the high voltage (see Harvey et al. figs. 1, pars. 44, 54, 60, 65 and 53, 71 Brunet et al. par. 42).

Regarding claim 23, the combination of Harley et al. and Brunet et al., discloses wherein the high voltage comprises a voltage within the voltage range of approximately 20 volts (see Brunet par. 42).

Regarding claim 24, the combination of Harley et al. and Brunet discloses the stylus of claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device (Harley et al., pars. 35, 37).

Regarding claim 25, the combination of Harley et al. and Brunet discloses the stylus of claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish: contact by an object other than the stylus with the device; or a presence of the object near the touch sensor of the device (see Harley, figs. 1, 5, 10, 12-14).

Regarding claim 26, the combination of Harley et al. and Brunet discloses the stylus of claim 25, wherein the object is least a part of a human hand (see Harley pars. 2-4, 28, 30, 41, 56, and 62).

Regarding claim 27, the combination of Harley et al. and Brunet discloses stylus of claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device (Harley, figs. 9, 11, pars. 61-63).

Regarding claims 28, 30-34, see rejection above of claims 21, 23-27, respectively, noted for the electromagnetic signal (see Harvey et al. Figs. 1, pars. 44, 54, 60, 65).

Regarding claims 35, 37-40, see rejection above of claims 21, 24-27, respectively.

6. Claims 22, 29 and 36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041), and Brunet et al. (US 5657053) in view of Hargreaves et al. (US 20100315384).

Regarding claim 22, Harley et al. and Brunet, discloses the stylus of claim 21.

Harfreaves et al. discloses the high-voltage signals are produced by a transformer in the stylus (see fig. 2B, par. 44).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a transformer in the stylus in Harley et al. and Brunet as suggested by Hatfreaves et al., the motivation being in order to amplify the active pen signal.

Regarding claims 29, 36, see rejection above of claim 22, respectively.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	08/02/2016	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	08/02/2016	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"14516845"	US-PGPUB; USPAT; USOCR	OR	ON	2016/07/29 12:59
S2	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/07/29 13:01
S3	122926	electromagnetic near2 signal$1	US-PGPUB; USPAT; USOCR	OR	ON	2016/07/29 13:01
S4	2	S2 and S3	US-PGPUB; USPAT; USOCR	OR	ON	2016/07/29 13:02
S5	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 13:11
S6	19	convert$4 and S5	US-PGPUB; USPAT;	OR	ON	2016/08/01 13:58

			USOCR			
S7	1	14/516845	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 13:58
S8	8	(convert$4 near9 voltage$1) and S5	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 13:58
S9	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 18:02
S10	2	(convert$4 near9 voltage$1) and S9 and wireless	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 18:02
S11	2	13/362830	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 18:04
S13	1	"8866767".pn.	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/01 18:15
S14	2	"20120327041"	US-PGPUB; USPAT; USOCR	OR	ON	2016/08/02 13:32

EAST Search History (Interference)

<This search history is empty>

8/2/2016 5:42:44 PM

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015	02/04/2016	08/02/2016						
	21	✓	✓	✓						
	22	✓	✓	✓						
	23	✓	✓	✓						
	24	✓	✓	✓						
	25	✓	✓	✓						
	26	✓	✓	✓						
	27	✓	✓	✓						
	28	✓	✓	✓						
	29	✓	✓	✓						
	30	✓	✓	✓						
	31	✓	✓	✓						
	32	✓	✓	✓						
	33	✓	✓	✓						
	34	✓	✓	✓						
	35	✓	✓	✓						
	36	✓	✓	✓						
	37	✓	✓	✓						
	38	✓	✓	✓						
	39	✓	✓	✓						
	40	✓	✓	✓						

PTO/SB/30 (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Request for Continued Examination (RCE) Transmittal

Address to:
Mail Stop RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Application Number	14/516,845
Filing Date	October 17, 2014
First Named Inventor	Shahrooz Shahparnia
Art Unit	2695; confirmation #9862
Examiner Name	Van Nguyen Chow
Attorney Docket Number	080900.2758

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.
Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. See Instruction Sheet for RCEs (not to be submitted to the USPTO) on page 2.

1. Submission required under 37 CFR 1.114 Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

   a. ☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

      i. ☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

      ii. ☐ Other _____

   b. ☑ Enclosed

      I. ☑ Amendment/Reply

      ii. ☐ Affidavit(s)/ Declaration(s)

      iii. ☐ Information Disclosure Statement (IDS)

      iv. ☐ Other _____

2. Miscellaneous

   a. ☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of _____ months. (Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

   b. ☐ Other _____

3. Fees The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

   a. ☑ The Director is hereby authorized to charge the following fees, any underpayment of fees, or credit any overpayments, to Deposit Account No. 02-0384.

      i. ☑ RCE fee required under 37 CFR 1.17(e)

      ii. ☑ Extension of time fee (37 CFR 1.136 and 1.17)

      iii. ☐ Other _____

   b. ☐ Check in the amount of $ _____ enclosed

   c. ☐ Payment by credit card (Form PTO-2038 enclosed)

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

Signature		Date	07/18/2016
Name (Print/Type)	Chad D. Terrell	Registration No.	52279

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature			
Name (Print/Type)		Date	

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	October 17, 2014
Group Art Unit:	2695
Examiner:	Van Nguyen Chow
Confirmation No.:	9862
Title:	*Active Stylus with High Voltage*

Mail Stop: RCE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Response under 37 C.F.R. § 1.114

In response to the final Office Action dated February 16, 2016, Applicant respectfully requests the Examiner to reconsider this Application in view of the following remarks and amendments, filed with a Request for Continued Examination (RCE). Please amend this Application as follows.

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In the Claims:

1-20. (Cancelled)

21. (**Currently amended**) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting ~~**electromagnetic**~~ signals wirelessly to a device through a touch sensor of the device, at least some of the ~~**electromagnetic**~~ signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

22. (**Currently amended**) The stylus of Claim 21, wherein the ~~**high voltage is produced by**~~ **component is** a transformer ~~**in the stylus**~~.

23. (Previously Presented) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (Previously Presented) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (Previously Presented) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

26. (Previously Presented) The stylus of Claim 25, wherein the object is least a part of a human hand.

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27. (Previously Presented) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (Previously Presented) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

29. (Previously Presented) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (Previously Presented) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (Previously Presented) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (Previously Presented) The stylus of Claim 31, wherein the object is least a part of a human hand.

33. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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34. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (**Currently amended**) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device;

a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

36. (**Currently amended**) The media of Claim 35, wherein the ~~**high voltage is produced by**~~ **component is** a transformer ~~**in the stylus**~~.

37. (**Currently Amended**) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch ~~**sensor**~~ **sensor.**

38. (Previously Presented) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

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39. (Previously Presented) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

40. (Previously Presented) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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Remarks

This Application has been reviewed carefully in light of the non-final Office Action dated February 16, 2016. Applicant appreciates the Examiner's consideration of the Application. Although Applicant believes all claims are allowable without amendment, to advance prosecution Applicant has made clarifying amendments to Claims 21-22 and 35-36. Applicant also has amended Claim 37 to correct a typographical error. At least certain amendments are not considered narrowing, and none are considered necessary for patentability. Additionally, Applicant does not admit that these amendments are made in response to or necessitated by any cited reference or combination of cited references. Applicant respectfully requests reconsideration and allowance of all pending claims.

Request for Interview

If the Examiner intends to issue a new Office Action in response to this submission, in the interest of compact and efficient prosecution, Applicant respectfully requests that the Examiner contact Applicant's attorney prior to issuing the new Office Action to discuss a possible resolution to any outstanding issues.

The Claims are Allowable over the Proposed *Harley-Files* Combination

The Office Action rejects Claims 21, 23-28, 30-35, and 37-40 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent Publication No. 2012/0327041 ("*Harley*") in view of U.S. Patent No. 5,657,053 ("*Files*").[1] Applicant respectfully traverses these rejections and discusses independent Claims 21 and 28 and dependent Claims 33-34, 37, and 39-40 as examples.

Independent Claims 21 and 35

At a minimum, the proposed *Harley-Files* combination does not disclose, teach, or suggest "a stylus comprising . . . a component operable to convert the voltage of approximately

[1] The Office Action actually lists the rejection as being under 35 U.S.C. § 102(b) and alleges that these claims are "anticipated by" *Harley* in view of *Files*. Given that the Office Action provides a heading of "Claim Rejections - 35 USC § 103," reproduces the language of pre-AIA 35 U.S.C. § 103(a), and rejects the claims based on a combination of references, Applicant assumes that the listing of the rejections in paragraph 3 of the Office Action was a typographical error and that the Office actually intended to reject the claims under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* in view of *Files*. If Applicant's assumption is incorrect, notice of such would be appreciated.

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1 to 3 volts to the high voltage," as recited in amended independent Claim 21. The Office Action relies on *Files* as allegedly disclosing the claimed "high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to 3 volts." The cited portion of *Files* discloses the following:

> An inductor 58 and a capacitor 60 are coupled through a metal strip 56 to the crystal 54. During the operation of the apparatus, the ultrasonic wave packet transmitted by source crystal 34 is detected by stylus crystal 54. In response, the stylus crystal 54 generates a voltage pulse which is passed through the metal strip 56 to the inductor 58 and the capacitor 60 (in the described embodiment the voltage pulse is approximately 15 volts). Together, the inductor 58 and capacitor 60 create a resonant circuit which receives, stores and releases back to the crystal 54 the voltage initially created by the crystal 54.

Files at Column 8, lines 19-29. While the cited portion of *Files* discloses a stylus crystal that generates a voltage pulse of approximately 15 volts, *Files* does not disclose "a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage," as recited in Claim 21. The cited portions of *Harley* and the other cited portions of *Files* do not make up for these deficiencies at least because neither *Files* nor *Harley* appears to mention a voltage of approximately 1 to 3 volts.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 21 and all its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 35 and its dependent claims.

Independent Claim 28 and Dependent Claim 37

At a minimum, the Office Action has not established that the proposed *Harley-Files* combination discloses, teaches, or suggests "the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor," as recited in independent Claim 28. The Office Action does not appear to address this claim language. *See Office Action* at 5. For at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 28 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 37.

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Dependent Claims 33 and 39

At a minimum, the Office Action has not established that the proposed *Harley-Files* combination discloses, teaches, or suggests "wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor," as recited in dependent Claim 33. The Office Action does not address this claim language. *See Office Action* at 5. Thus, for at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 33. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 39.

Dependent Claims 34 and 40

At a minimum, the Office Action has not established that the proposed *Harley-Files* combination discloses, teaches, or suggests "wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor," as recited in dependent Claim 34. The Office Action does not address this claim language. *See Office Action* at 5. Thus, for at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 34. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 40.

The Separately-Rejected Claims are Allowable over the Proposed *Harley-Files-Hargreaves* Combination

The Office Action rejects Claims 22, 29, and 36 under pre-AIA 35 U.S.C. § 103(a) as allegedly being unpatentable over *Harley* and *Files* in view of U.S. Patent Publication No. 2010/0315384 ("*Hargreaves*"). Applicant respectfully traverses the rejections.

Claims 22, 29, and 36 depend from independent Claims 21, 28, and 35, respectively, which Applicant has shown above to be allowable over the proposed *Harley-Files* combination. The cited portions of *Hargreaves* do not appear to make up for at least the above-discussed deficiencies of *Harley* and *Files*. Thus, dependent Claims 22, 29, and 36 are allowable at least because they depend from an allowable independent claim. Additionally, dependent Claims 22, 29, and 36 recite further patentable features.

For example, at a minimum, the proposed *Harley-Files-Hargreaves* combination does not disclose, teach, or suggest "wherein the component [of the stylus operable to convert the

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voltage of approximately 1 to 3 volts to the high voltage] is a transformer," as recited in amended Claim 22. The Office Action relies on *Hargreaves* as allegedly disclosing the following previously presented version of Claim 22: "The stylus of Claim 21, wherein the high voltage is produced by a transformer in the stylus." The cited portion of *Hargreaves* discloses the following:

> [0044] With further reference to FIG. 2B, in accordance with an embodiment of the present invention, amplifier 130 includes a step-up transformer, T1 (denoted as 232 in FIG. 2B). A suitable step-up transformer for amplifying the active pen signal is a Tamura MET-01. In one embodiment, step-up transformer T1 is configured to provide a 28:1 voltage gain for the amplified active pen signal relative to the active pen signal input from logic and control circuitry 228. Alternatively, in another embodiment, a switched inductive boost may be used instead of step-up transformer T1. This would avoid the bulk and expense associated with use of step-up transformer T1.

Hargreaves at Paragraph 44. While *Hargreaves* discloses a step-up transformer that may provide a 28:1 voltage gain for an amplified active pen signal, *Hargreaves* fails to disclose "a component operable to convert the voltage of approximately 1 to 3 volts to the high voltage," "wherein the component is a transformer," as recited in amended Claim 22. Furthermore, though Paragraph 50 of *Hargreaves* discloses a power supply that may include batteries which run from about 1.6 to 3 volts, *Hargreaves* does not correlate this voltage to the amplified active pen signal cited above.

For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 22 and its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 36.

Regarding dependent Claim 29, to avoid burdening the record and in view of the allowability of independent Claim 28 for at least the above-discussed reasons, Applicant does not discuss the additional patentable features in this Response. Applicant reserves the right to discuss these features in a future submission, if appropriate. For at least these reasons, Applicant respectfully requests reconsideration and allowance of dependent Claim 29.

Moreover, Applicant does not admit that the proposed *Harley-Files* combination or the proposed *Harley-Files-Hargreaves* combination is possible or that the Office Action has

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provided an adequate reason for combining *Harley* and *Files* or *Harley*, *Files*, and *Hargreaves* in the manner proposed. To avoid burdening the record, Applicant does not address this issue in this submission. Applicant reserves the right to discuss these features in a future submission, if appropriate.

Request for Evidentiary Support

Should a rejection based on any of these rejections be maintained, Applicant respectfully requests appropriate evidentiary support. Additionally, if the Examiner is relying on alleged "common knowledge," alleged "well known," principles, "Official Notice," or other information within the Examiner's personal knowledge to establish the rejection, Applicant requests the Office to cite a reference or provide an affidavit in support of this position. *See* M.P.E.P. § 2144.03 and 37 C.F.R. § 1.104(d)(2).

No Waiver

Applicant's arguments and amendments are made without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later submission, if appropriate. By not responding to additional statements made in the Office Action, Applicant does not acquiesce to the additional statements.

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Conclusion

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicant, at the Examiner's convenience at (214) 953-6813.

The Commissioner is authorized to charge the fees for a first RCE and a two-month extension of time to Deposit Account No. 02-0384 of Baker Botts L.L.P. Although Applicant believes no other fees are due, the Commissioner is authorized to charge any necessary additional fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicant

Chad D. Terrell
Reg. No. 52,279
Tel. 214.953.6813

Date: July 18, 2016

Correspondence Address

Customer No. 12323

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 164

Electronic Patent Application Fee Transmittal

Application Number:	14516845
Filing Date:	17-Oct-2014
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Filer:	Chad D Terrell
Attorney Docket Number:	080900.2758

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 2 months with $0 paid	1252	1	600	600
Miscellaneous:				
Request for Continued Examination	1801	1	1200	1200
		Total in USD ($)		**1800**

Electronic Acknowledgement Receipt

EFS ID:	26383475
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Chad D Terrell
Filer Authorized By:	
Attorney Docket Number:	080900.2758
Receipt Date:	18-JUL-2016
Filing Date:	17-OCT-2014
Time Stamp:	21:43:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1800
RAM confirmation Number	071916INTEFSW00007521020384
Deposit Account	020384
Authorized User	Chad Terrell

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	Atmel2758RCETrans.pdf	100848 55f1d925928bd66ac2ae91c207f6909cfbf1c1f1	no	1
Warnings:					
This is not a USPTO supplied RCE SB30 form.					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
2	Amendment Submitted/Entered with Filing of CPA/RCE	Atmel2758RCEResponse.pdf	583607 98705b38a30d97a20e8eaeeb96c6d90a0c12cea7	no	11
Warnings:					
The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	32122 76aba8651e8fe632b554d04b029a8a657b4e7e64	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	716577		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **07/18/2016**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
LAWANDA MILTON

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 02/16/2016

Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

EXAMINER	
CHOW, VAN NGUYEN	

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
02/16/2016	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/14/2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *all* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
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Response to Arguments

1. Applicant's arguments filed 12/14/2015 have been fully considered but they are not persuasive.

Applicant argued that Files discloses transmitting *ultrasonic* (i.e., *acoustic)* wave packets from a stylus to a device. At least because acoustic waves are not *electromagnetic* signals, *Files* does not disclose, teach, or suggest "electromagnetic signals [transmitted] wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" as independent Claim 21 recites. Which is incorrect. The Office Action mentioned that Files et al. discloses the stylus of claim 1, a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts (see par. 42). However, Harley discloses the electromagnetic signal, see pars. 64. 65. Moreover, Harley discloses power can be supplied from a power source in another electronic device, such as a touch sensing device, via a cable connecting the stylus to the device, or via inductive coupling. In another embodiment, the stylus can include the sense circuitry 610 illustrated in FIG. 6. In yet another embodiment, the stylus can include multiple sense electrodes connected to one or more sense circuits.

Therefore, the combination of Harley et al. and Files discloses the claim 21.

Claim Rejections - 35 USC § 103

2. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 21, 23-28, 30-35, 37-40 are rejected under pre-AIA 35 U.S.C. 102 (b) as being anticipated by Harley et al. (US 20120327041) in view further Files et al. (US 5657053).

Regarding claim 21, Harley et el. discloses a stylus comprising: one or more electrodes; one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals (see figs. 1, pars. 44, 54, 65 and 53, 71); a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip (see figs. 2, 7, the top surface of tip 202).

Files et al. discloses the stylus of claim 1, a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts (see par. 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a high voltage pulse output on active stylus tip in Harley et al. as suggested by Files et al., the motivation being in order to have transmitted high voltage to the device.

The combination of Harley et al. and Files, generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts (see Files figs. 3, 6).

Regarding claim 23, Harley et al. discloses the stylus of claim 21.

Files et al. discloses the stylus of claim 1, wherein substantially high voltage comprises approximately 10-20 volts (see par. 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a high voltage pulse output on active stylus tip in Harley et al. as suggested by Files et al., the motivation being in order to have transmit high voltage to the device.

Regarding claim 24, the combination of Harley et al. and Files discloses the stylus of claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device (Harley et al., pars. 35, 37).

Regarding claim 25, the combination of Harley et al. and Files discloses the stylus of claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish: contact by an object other than the stylus with the device; or a presence of the object near the touch sensor of the device (see Harley, figs. 1, 5, 10, 12-14).

Regarding claim 26, the combination of Harley et al. and Files discloses the stylus of claim 25, wherein the object is least a part of a human hand(see Harley pars. 2-4, 28, 30, 41, 56, and 62).

Regarding claim 27, the combination of Harley et al. and Files discloses stylus of claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device (Harley, figs. 9, 11, pars. 61-63).

Regarding claims 28, 30-34, see rejection above of claims 21, 23-27, respectively.

Regarding claims 35, 37-40, see rejection above of claims 21, 24-27, respectively.

4. Claims 22, 29 and 36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041), and Files et al. (US 5657053) in view of Hargreaves et al. (US 20100315384).

Regarding claim 22, Harley et al. and Files, discloses the stylus of claim 21.

Harfreaves et al. discloses the high-voltage signals are produced by a transformer in the stylus (see fig. 2B, par. 44).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a transformer in the stylus in Harley et al. and Files as suggested by Hatfreaves et al., the motivation being in order to amplify the active pen signal.

Regarding claims 29, 36, see rejection above of claim 22, respectively.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	6314	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4))	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/04 01:51
L2	37	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (volts)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/04 01:51
L3	37	L2 and L1	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/04 01:51
L4	31	3 AND ((G06F3/044 OR G06F3/0416 OR G06F3/03545 OR G06F1/1605 OR G06F3/016 OR G06F3/0428 OR G06F3/043 OR G06F3/046 OR G06F1/26 OR G06F2203/0384 OR G06F3/0383 OR G06F1/3262 OR G06F2203/04111 OR G06F2203/04112 OR G06F2203/04807 OR G06F3/038 OR G06F3/041 OR G06F3/045 OR G06F1/169 OR G06F2203/04103 OR G06F2203/04104 OR G06F2203/04106 OR G06F3/033 OR G06F3/0412 OR G06F3/0414 OR G06F3/0488).CPC.)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/04 01:53
S1	3	"20120327041" "5657053".pn.	US-PGPUB; USPAT	OR	OFF	2016/02/02 15:23
S2	142703	electromagnetic near3 (signal$1 data)	US-PGPUB; USPAT	OR	OFF	2016/02/02 15:58
S4	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 17:39
S5	33	(stylus and S4)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 17:42
S6	22	(stylus and S4) and electromagnetic	US-PGPUB; USPAT;	OR	OFF	2016/02/02 17:42

			USOCR			
S10	142703	electromagnetic near3 (signal$1 data)	US-PGPUB; USPAT	OR	OFF	2016/02/02 17:54
S11	3	S4 and S10	US-PGPUB; USPAT	OR	OFF	2016/02/02 17:54
S12	1	14/516845	US-PGPUB; USPAT	OR	OFF	2016/02/02 17:58
S13	7	wo2008086058	US-PGPUB; USPAT	OR	OFF	2016/02/02 18:34
S14	8	wo2008086058	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/02/02 18:37
S15	2	13/362830	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 18:40
S16	3	"13362830"	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 18:41
S17	2200	(stylus near8 voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:34
S18	13	S17 and S4	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:34
S19	22	(stylus near8 high$voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:37
S20	1	(stylus near8 high$voltage) same volts	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:37
S21	872	stylus same volts	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:37
S22	189078	345/$.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:37
S23	101	S21 and S22	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/02 19:38
S24	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" |	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:18

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S25	7	S24 and volts	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:18
S26	4258	(electromagnetic same stylus)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:21
S27	1599	(electromagnetic same stylus) same touch$4	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:21
S28	534	(electromagnetic same stylus) same touch$4 and tip	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:22
S29	220	(electromagnetic same stylus) same touch$4 and tip and electrodes	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:22
S30	52	(electromagnetic same stylus) same touch$4 and tip and electrodes and (high near3 voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:22
S31	189078	345/$.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:23
S32	30	S30 and S31	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 01:23
S33	42	("20080238885" | "20090095540" | "20090115725" | "20090127005" | "20090153152" | "20090184939" | "20090251434" | "20090315854" | "20100006350" | "20100155153" | "20100292945" | "20100315384" | "20110007029" | "20120242588" | "20120242592" | "20120243151" | "20120243719" | "20120327041" | "20130076612" | "20130106714" | "20130106720" | "20130106740" | "20130106741" | "20140049478" | "4695680" | "5657054" | "5973677" | "6377248" | "7612767" | "7663607" | "7864503" | "7875814" | "7920129" | "8031094" | "8031174" | "8040326" | "8049732" | "8094133" | "8179381" | "8217902" | "8638320" | "8723824").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 13:07
S34	29	(inductive electroma$7) and S33	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 13:07
S35	6277	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4))	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 18:47
S36	1001	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 18:56
S37	16	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (high$voltage)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 18:56

S38	37	(inductive electroma$7) same (touch$4 near2 (detect$4 sens$4)) same stylus and (volts)	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 18:58
S39	26	S38 and 345/$.ccls.	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 18:58
S41	12	(inductive electroma$7) near5 stylus same volts	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 19:09
S42	1660	(inductive electroma$7) near5 stylus	US-PGPUB; USPAT; USOCR	OR	OFF	2016/02/03 19:28

EAST Search History (Interference)

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2/ 4/ 2016 1:53:36 AM
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	02/04/2016	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
3			

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	02/04/2016	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015	02/04/2016							
	21	✓	✓							
	22	✓	✓							
	23	✓	✓							
	24	✓	✓							
	25	✓	✓							
	26	✓	✓							
	27	✓	✓							
	28	✓	✓							
	29	✓	✓							
	30	✓	✓							
	31	✓	✓							
	32	✓	✓							
	33	✓	✓							
	34	✓	✓							
	35	✓	✓							
	36	✓	✓							
	37	✓	✓							
	38	✓	✓							
	39	✓	✓							
	40	✓	✓							

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Shahrooz Shahparnia
Serial No.:	14/516,845
Filing Date:	17 October 2014
Group Art Unit:	2695
Examiner:	Van Nguyen Chow
Confirmation No.:	9862
Title:	*Active Stylus with High Voltage*

Response under C.F.R. 1.111

In response to the first overall, non-final Office Action dated 14 August 2015, Applicant respectfully requests the Examiner to reconsider this Application in view of the following remarks and amendments. Please amend this Application as follows.

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In the Claims

1-20. (Cancelled)

21. (Currently Amended) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

22. (Previously Presented) The stylus of Claim 21, wherein the high voltage is produced by a transformer in the stylus.

23. (Previously Presented) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (Previously Presented) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (Previously Presented) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

26. (Previously Presented) The stylus of Claim 25, wherein the object is least a part of a human hand.

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27. (Previously Presented) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (Currently Amended) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

29. (Previously Presented) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (Previously Presented) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (Previously Presented) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (Previously Presented) The stylus of Claim 31, wherein the object is least a part of a human hand.

33. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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34. (Previously Presented) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (Currently Amended) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

36. (Previously Presented) The media of Claim 35, wherein the high voltage is produced by a transformer in the stylus.

37. (Previously Presented) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor

38. (Previously Presented) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

39. (Previously Presented) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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40. (Previously Presented) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

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Remarks

This Application has been reviewed carefully in light of the non-final Office Action dated 14 August 2015. Applicant appreciates the Examiner's consideration of the Application. Although Applicant believes all claims are allowable without amendment, to advance prosecution Applicant has made clarifying amendments to Claims 21, 28, and 35. At least certain amendments are not considered narrowing, and none of the amendments are considered necessary for patentability. Additionally, Applicant does not admit that any of these amendments, are made in response to or necessitated by any cited reference or combination of cited references. Applicant respectfully requests reconsideration and allowance of all pending claims.

The claims are definite

The Examiner rejects Claims 21-40 under 35 U.S.C. 112(b) as being indefinite. Specifically, the Examiner asserts that Claims 21, 28, and 35 recitation of "a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" is vague. *Office Action* at 2. Applicant respectfully disagrees with the Examiner.

According to the MPEP, "[t]erms of degree are not necessarily indefinite." M.P.E.P Sec. 2173.05(b). Instead, "when a term of degree is used in the claim, the examiner should determine whether the specification provides some standard for measuring that degree." *Id.* This Application's Specification provides a standard for measuring "a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts," and thus those claim features are definite. For example, paragraph 41 of the Specification states:

> Herein, high voltage indicates a relatively large potential difference compared to voltages used by an active stylus in normal operation, whether the relatively large potential difference is positive or negative. As an example, an active stylus produces voltage of approximately 1-3 volts while in normal operation. An electrical circuit of the active stylus contains a transformer capable of converting ordinary-operation voltage to high voltage in the range of 10-20 volts, for example approximately 12 volts.

Thus, one of ordinary skill in the art would understand that the claims' recitation of "relatively large potential difference compared to a voltage within a voltage range of

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approximately 1 to approximately 3 volts" refers to voltages that are at least roughly three times the comparison voltage.

In light of the above, Applicant respectfully submits that Claims 21-40 are definite. Applicant respectfully requests that the Examiner withdraw this rejection and allow Claims 21-40.

The claims are allowable over the proposed *Harley-Files* combination

The Office Action rejects Claims 21, 23-28, 30-35, and 37-40 under 35 U.S.C. § 103(a) as allegedly being anticipated by U.S. Patent Publication No. 2012/0327041 ("*Harley*") in view of U.S. Patent No. 5,657,053 ("*Files*"). Applicant respectfully traverses these rejections and discusses amended Claim 21 as an example.

At a minimum, the proposed *Harley-Files* combination does not appear to disclose, teach, or suggest any stylus comprising media for:

> transmitting electromagnetic signals wirelessly to a device through a touch sensor of the device, at least some of the electromagnetic signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts,

as independent Claim 21 recites. The Examiner asserts that *Files* discloses "a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" and that "[i]t would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a high voltage pulse output on active stylus tip in Harley et al. as suggested by Files et al., the motivation being in order to have transmit high voltage to the device." *Office Action* at 3. However, , *Files* merely discloses a piezoelectric pen-based electrographic system. *See, Files* at *e.g.,* Fig. 3; 6:63-65. *Files* discloses a stylus with piezoelectric material, such as piezoelectric crystal, that acts as both a receiver of an ultrasonic wave packet sent by a piezoelectric source crystal and a transmitter of a second wavepacket. *Id.* at *e.g.*, Fig. 5; 8:12-17. An inductor and a capacitor in the stylus are coupled through a metal strip to the crystal in the stylus. During the operation of the system, the ultrasonic wave packet transmitted by the source crystal is detected by the stylus crystal. In response, the stylus crystal generates a voltage pulse, *e.g.*, of approximately 15 volts, which is passed through the metal strip to the inductor and the capacitor. Together, the

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inductor and capacitor create a resonant circuit which receives, stores and releases back to the stylus crystal the voltage initially created by the stylus crystal. Upon receiving the voltage from the resonant circuit, the stylus crystal generates a second ultrasonic wave packet which is sent throughout the anode plate of a device. The ultrasonic wave packet is then received by the three piezoelectric point elements in the device. *Id.* at *e.g.,* 8:22-38.

To summarize, *Files* discloses transmitting *ultrasonic* (i.e., *acoustic*) wave packets from a stylus to a device. At least because acoustic waves are not *electromagnetic* signals, *Files* does not disclose, teach, or suggest "electromagnetic signals [transmitted] wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts" as independent Claim 21 recites. Moreover, at least because the piezoelectric material of *Files* cannot transmit any electromagnetic signals, combining the piezoelectric material of *Files* with the stylus of *Harley* would not alter any of the electromagnetic signals that the stylus of *Harley* might generate. Thus, even if the proposed combination were possible, which Applicant does not admit, the proposed combination still would not disclose, teach, or suggest at least "electromagnetic signals [transmitted] wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts," as amended Claim 21 recites.

Moreover, Applicant does not admit that the proposed combination is possible or that the Office Action provides an adequate explanation, either from the cited references or from the knowledge generally available to one of ordinary skill in the art at the time of Applicant's invention, to combine or modify these references in the proposed manner.

Thus, for at least these reasons, Applicant respectfully requests reconsideration and allowance of independent Claim 21 and all its dependent claims. For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of independent Claims 28 and 35, and all their dependent claims

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Claims 22, 29, and 36 are allowable over the proposed *Harley-Files-Hargreaves* combination

The Office Action rejects Claims 22, 29, and 36 under 35 U.S.C. § 103(a) as being unpatentable over the proposed *Harley-Files* combination in view of U.S. Patent Publication No. 2010/0315384 ("*Hargreaves*"). Applicant respectfully traverses the rejections and discusses Claim 22 as an example.

As shown above, the propsoed *Harley-Files* combination fails to disclose at least "electromagnetic signals [transmitted] wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts," as independent Claim 21 recites. *Hargreaves* does not appear to make up for these deficiencies, and the Office Action does not appear to assert otherwise. At least because Claim 22 depends on independent Claim 21, which has been shown to be allowable over the proposed *Harley-Files-Hargreaves* combination, Applicant respectfully requests reconsideration and allowance of Claim 22. Moreover, Applicant does not admit that the proposed combination is possible or that the Office Action provides an adequate explanation, either from the cited references or from the knowledge generally available to one of ordinary skill in the art at the time of Applicant's invention, to combine or modify these references in the proposed manner.

For at least certain analogous reasons, Applicant respectfully requests reconsideration and allowance of Claims 29 and 36.

Request for evidentiary support

Should a rejection based on any of the above asserted rejections be maintained, Applicant respectfully requests appropriate evidentiary support. Additionally, if the Examiner is relying upon "common knowledge" or "well known " principles to establish the rejection, Applicant requests that a reference be provided in support of this position pursuant to M.P.E.P. § 2144.03. Furthermore, to the extent that the Examiner maintains any rejection based on an "Official Notice" or other information within the Examiner's personal knowledge, Applicant respectfully requests that the Examiner cite a reference as documentary evidence in support of

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this position or provide an affidavit in accordance with M.P.E.P. § 2144.03 and 37 C.F.R. 1.104(d)(2).

No waiver

Applicant's arguments and amendments are made without prejudice or disclaimer. Additionally, Applicant has merely discussed example distinctions from the cited references. Other distinctions may exist, and Applicant reserves the right to discuss these additional distinctions in a later submission, if appropriate. By not responding to additional statements made in the Office Action, Applicant does not acquiesce to the additional statements.

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Conclusion

Applicant has made an earnest attempt to place this case in condition for allowance. For at least the foregoing reasons, Applicant respectfully requests full allowance of all pending claims.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Jason R. German, Attorney for Applicant, at the Examiner's convenience at (650) 739-7516.

Please charge $200.00 for a one-month extension of time to Deposit Account No. 02-0384 of Baker Botts L.L.P. The Commissioner is authorized to charge any other necessary fees and credit any overpayment for this Application to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicant

/Jason R. German/

Jason R. German
Reg. No. 69,497

Date: 14 December 2015

Customer No. 12323

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Electronic Patent Application Fee Transmittal

Application Number:	14516845
Filing Date:	17-Oct-2014
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Filer:	Jason R. German/Joyce Abriam
Attorney Docket Number:	080900.2758

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension - 1 month with $0 paid	1251	1	200	200
Miscellaneous:				
			Total in USD ($)	**200**

Electronic Acknowledgement Receipt

EFS ID:	24359083
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Jason R. German/Joyce Abriam
Filer Authorized By:	Jason R. German
Attorney Docket Number:	080900.2758
Receipt Date:	14-DEC-2015
Filing Date:	17-OCT-2014
Time Stamp:	21:00:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$200
RAM confirmation Number	8233
Deposit Account	020384
Authorized User	BAKER & BOTTS, LLP

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		080900_2758_ROA.pdf	127973 1e3ca3c4be96f142184ef80a5801fdea73cf27cb	yes	11

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	5
	Applicant Arguments/Remarks Made in an Amendment	6	11

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30425 78985e378853f8eb96b48d56ff65ec1e78036ed5	no	2

Warnings:

Information:

Total Files Size (in bytes):	158398

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT **12/14/2015**

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	0

AMENDMENT

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
☐ Application Size Fee (37 CFR 1.16(s))						
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/ADRIENE SELLMAN/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758	9862

12323 7590 08/14/2015

Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

EXAMINER
CHOW, VAN NGUYEN

ART UNIT	PAPER NUMBER
2695	

NOTIFICATION DATE	DELIVERY MODE
08/14/2015	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptomail1@bakerbotts.com
ptomail2@bakerbotts.com

Office Action Summary	Application No. 14/516,845	Applicant(s) SHAHPARNIA ET AL.	
	Examiner VAN CHOW	Art Unit 2695	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06/30/2015*.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5)☒ Claim(s) *21-40* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *all* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☒ The drawing(s) filed on *10/17/2014* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

4) ☐ Other: _____.

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Claim Rejections - 35 USC § 112

1. The following is a quotation of 35 U.S.C. 112(b):

> (b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 21-40 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention.

Claims 21, 28 and 35 recite "a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts", which is vague. What is a large potential? How large is a large potential? Moreover, "approximately 1 to approximately 3 volts", is unclear. What is the range for the "approximately"? Approximate is not a certain range. Therefore, it is not limited to any number.

Claims 22-27, 29-34, 36-40 fall with parent claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 21, 23-28, 30-35, 37-40 are rejected under pre-AIA 35 U.S.C. 102 (b) as being anticipated by Harley et al. (US 20120327041) in view further Files et al. (US 5657053).

Regarding claim 21, Harley et el. discloses a stylus comprising: one or more electrodes; one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals (see figs. 1, pars. 44, 54, 65 and 53, 71); a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip (see figs. 2, 7, the top surface of tip 202).

Files et al. discloses the stylus of claim 1, a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts (see par. 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a high voltage pulse output on active stylus tip in Harley et al. as suggested by Files et al., the motivation being in order to have transmit high voltage to the device.

The combination of Harley et al. and Files, generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts (see Files figs. 3, 6).

Regarding claim 23, Harley et al. discloses the stylus of claim 21.

Files et al. discloses the stylus of claim 1, wherein substantially high voltage comprises approximately 10-20 volts (see par. 42).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a high voltage pulse output on active stylus tip in Harley et al. as suggested by Files et al., the motivation being in order to have transmit high voltage to the device.

Regarding claim 24, the combination of Harley et al. and Files discloses the stylus of claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device (Harley et al., pars. 35, 37).

Regarding claim 25, the combination of Harley et al. and Files discloses the stylus of claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish: contact by an object other than the stylus with the device; or a presence of the object near the touch sensor of the device (see Harley, figs. 1, 5, 10, 12-14).

Regarding claim 26, the combination of Harley et al. and Files discloses the stylus of claim 25, wherein the object is least a part of a human hand(see Harley pars. 2-4, 28, 30, 41, 56, and 62).

Regarding claim 27, the combination of Harley et al. and Files discloses stylus of claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device (Harley, figs. 9, 11, pars. 61-63).

Regarding claims 28, 30-34, see rejection above of claims 21, 23-27, respectively.

Regarding claims 35, 37-40, see rejection above of claims 21. 24-27, respectively.

5. Claims 22, 29 and 36 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Harley et al. (US 20120327041), and Files et al. (US 5657053) in view of Hargreaves et al. (US 20100315384).

Regarding claim 22, Harley et al. and Files, discloses the stylus of claim 21.

Harfreaves et al. discloses the high-voltage signals are produced by a transformer in the stylus (see fig. 2B, par. 44).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a transformer in the stylus in Harley et al. and Files as suggested by Hatfreaves et al., the motivation being in order to amplify the active pen signal.

Regarding claims 29, 36, see rejection above of claim 22, respectively.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAN CHOW whose telephone number is (571)272-7590. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VAN CHOW/
Primary Examiner, Art Unit 2695

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

BIB DATA SHEET

CONFIRMATION NO. 9862

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
14/516,845	10/17/2014	345	2695	080900.2758

APPLICANTS

Atmel Corporation, San Jose, CA;

INVENTORS

Shahrooz Shahparnia, Campbell, CA;
Kishore Sundara-Rajan, San Jose, CA;
Yassar Ali, Sunnyvale, CA;
Izhar Bentov, Sunnyvale, CA;

**** CONTINUING DATA ***************************

This application is a CON of 13/362,830 01/31/2012 PAT 8866767
which claims benefit of 61/553,114 10/28/2011

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ****

10/24/2014

Foreign Priority claimed ☐ Yes ☑ No 35 USC 119(a-d) conditions met ☐ Yes ☑ No Verified and Acknowledged / / Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	8	20	3

ADDRESS

Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201
UNITED STATES

TITLE

Active Stylus with High Voltage

FILING FEE RECEIVED		
1740	FEES: Authority has been given in Paper No._____ to charge/credit DEPOSIT ACCOUNT No._____ for following:	☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	**Art Unit**
	VAN CHOW	2695

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIM		DATE								
Final	Original	08/10/2015								
	21	✓								
	22	✓								
	23	✓								
	24	✓								
	25	✓								
	26	✓								
	27	✓								
	28	✓								
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	32	✓								
	33	✓								
	34	✓								
	35	✓								
	36	✓								
	37	✓								
	38	✓								
	39	✓								
	40	✓								

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

ISSUED U.S. PATENTS AND PUBLISHED U.S. APPLICATIONS				
		DOCUMENT NUMBER	**PUBLICATION OR ISSUE DATE**	**FIRST NAMED INVENTOR**
	A	4,695,680	09-22-1987	Kable
	B	5,657,054	08-1997	Files et al.
	C	5,973,677	10-26-1999	Gibbons
	D	6,377,248	04-2002	Partow et al.
	E	7,612,767	11-03-2009	Griffin
	F	7,663,607	02-16-2010	Hotelling
	G	7,920,129	04-05-2011	Hotelling
	H	8,031,094	10-04-2011	Hotelling
	I	8,031,174	10-04-2011	Hamblin
	J	8,049,732	11-01-2011	Hotelling
	K	8,094,133	01-2012	Sato et al.
	L	2008/0238885	10-02-2008	Zachut
	M	2009/0095540	04-16-2009	Zachut
	N	2009/0115725	05-07-2009	Shemesh
	O	2009/0127005	05-21-2009	Zachut
	P	2009/0153152	06-18-2009	Maharyta
	Q	2009/0184939	07-23-2009	Wohlstadter
	R	2009/0251434	10-08-2009	Rimon
	S	2010/0006350	01-14-2010	Elias
	T	2010/0155153	06-24-2010	Zachut
	U	2010/0292945	11-18-2010	Reynolds
	V	2010/0315384	12-16-2010	Hargreaves
	W	2011/0007029	01-13-2011	Ben-David
	X	2013/0106740	05-2013	Yilmaz et al.
	Y	2013/0106720	05-2013	Shahparnia et al.
	Z	2013/0106714	05-2013	Shahparnia et al.
	AA	2013/0106741	05-2013	Pedersen et al.

FOREIGN PATENT DOCUMENTS					
		DOCUMENT NUMBER	**PUBLICATION OR ISSUE DATE**	**COUNTRY**	**TRANSLATION (YES OR NO)**

NON-PATENT LITERATURE (NPL)			
		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	**DATE**
	BB	KYUNG, KI-UK *et al.*, "wUbi-Pen : Windows Graphical User Interface Interacting with Haptic Feedback Stylus," *SIGGRAPH,*, Los Angeles, California	August 2008
	CC	LEE, JOHNNY C. *et al.*, "Haptic Pen: A Tactile Feedback Stylus for Touch Screens," *UIST '04*, Vol. 6, Issue 2, Santa Fe, New Mexico	Oct. 2004

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

	DD	SONG, HYUNYOUNG *et al.,* "Grips and Gestures on a Multi-Touch Pen," *CHI 2011, Session: Flexible Grips & Gestures*, Vancouver, BC, Canada	May 2011
	EE	TAN, ENG CHONG et al., "Application of Capacitive Coupling to the Design of an Absolute-Coordinate Pointing Device," IEEE Transactions on Instrumentation and Measurement, Vol. 54, No. 5	Oct. 2005

EXAMINER	DATE CONSIDERED
/VAN CHOW/	08/10/2015

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. PATENT AND TRADEMARK OFFICE

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

ISSUED U.S. PATENTS AND PUBLISHED U.S. APPLICATIONS

		DOCUMENT NUMBER	PUBLICATION OR ISSUE DATE	FIRST NAMED INVENTOR
	A	7,875,814	25 January 2011	Chen
	B	8,040,326	18 October 2011	Hotelling
	C	8,179,381	15 May 2012	Frey
	D	8,638,320	01-2014	Harley et al.
	E	2009/0315854	24 December 2009	Matsuo
	F	2012/0242588	27 September 2012	Myers
	G	2012/0242592	27 September 2012	Rothkopf
	H	2012/0243151	27 September 2012	Lynch
	I	2012/0243719	27 September 2012	Franklin
	J	2012-0327041	27 December 2012	Harley
	K	2014/0049478	02-2014	Brunet et al.

UNPUBLISHED U.S. APPLICATIONS

		DOCUMENT NUMBER	FILING DATE	FIRST NAMED INVENTOR
	L	61/454936	21 March 2011	Myers
	M	61/454950	21 March 2011	Lynch
	N	61/454894	21 March 2011	Rothkopf

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION OR ISSUE DATE	COUNTRY	TRANSLATION (YES OR NO)
	O	WO 2012/129247	09/27/2012	PCT	
	P				
	Q				

EXAMINER	DATE CONSIDERED
/VAN CHOW/	08/10/2015

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. PATENT AND TRADEMARK OFFICE

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	
Filing Date	
First Named Inventor	
Art Unit	
Examiner Name	
Attorney Docket Number	080900.2758

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7864503		2011-01-04	Cahng, Yu-Huel	
	2	8217902		2012-07-10	Chang, Ching-Yang	
	3	8723824		2014-05-13	Myers, Scott A.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20130076612		2013-03-28	Myers, Scott A.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	080900.2758

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NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Shahparnia, USSN 13/362,830, Issue Fee 01 October 2014 (Attorney Docket 080900.1318).	☐
	2	Shahparnia, USSN 13/362,830, Notice of Allowance 19 June 2014 (Attorney Docket 080900.1318).	☐
	3	Shahparnia, USSN 13/362,830, Amendment Non-final Rejection 28 May 2014 (Attorney Docket 080900.1318).	☐
	4	Shahparnia, USSN 13/362,830, Non-final Rejection 28 February 2014 (Attorney Docket 080900.1318).	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/VAN CHOW/	Date Considered	08/10/2015

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	14516845	SHAHPARNIA ET AL.
	Examiner	Art Unit
	VAN CHOW	2695

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner
G09F9/372 OR G09F9/301 OR G09F9/375 OR G06F3/03545 OR G06F3/044	08/10/2015	VC

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
east and text search	8/10/2015	VC

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758

CONFIRMATION NO. 9862

POA ACCEPTANCE LETTER

12323
Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

OC000000076016417

Date Mailed: 06/30/2015

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/24/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/qtran/

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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/516,845	10/17/2014	2695	1740	080900.2758	20	3

CONFIRMATION NO. 9862

REPLACEMENT FILING RECEIPT

12323
Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

OC000000078016342

Date Mailed: 06/30/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Shahrooz Shahparnia, Campbell, CA;
Kishore Sundara-Rajan, San Jose, CA;
Yassar Ali, Sunnyvale, CA;
Izhar Bentov, Sunnyvale, CA;

Applicant(s)

Atmel Corporation, San Jose, CA;

Power of Attorney: The patent practitioners associated with Customer Number 12323

Domestic Priority data as claimed by applicant

This application is a CON of 13/362,830 01/31/2012 PAT 8866767
which claims benefit of 61/553,114 10/28/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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If Required, Foreign Filing License Granted: 10/24/2014
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/516,845**
Projected Publication Date: Not Applicable

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 216

Non-Publication Request: No

Early Publication Request: No

Title

Active Stylus with High Voltage

Preliminary Class

345

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

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Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82A (07-13)
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Application Number	14/516,845
Filing Date	17 October 2014
First Named Inventor	Shahrooz Shahparnia
Title	Active Stylus with High Voltage
Art Unit	2695
Examiner Name	Van Nguyen Chow
Attorney Docket Number	080900.2758

SIGNATURE of Applicant or Patent Practitioner

Signature		Date (Optional)	2015-06-24
Name	Chad D. Terrell	Registration Number	52,279
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(c).

I hereby appoint:

☒ Practitioners associated with Customer Number: 12323

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

Name	Registration Number

As attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignments documents attached to this form in accordance with 37 CFR 3.73(c).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(c) to:

☒ The address associated with Customer Number: 12323

OR

☐	Firm or Individual Name			
	Address			
	City		State	Zip
	Country			
	Telephone		Email	

Assignee Name and Address: Atmel Corporation
1600 Technology Drive
San Jose, California 95110-1382

A copy of this form, together with a statement under 37 CFR 3.73(c) (Form PTO/AIA/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(c) may be completed by one of the practitioners appointed in this form, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date	4/6/05
Name	Scott Wornow	Telephone	408-487-2700
Title	Senior Vice President, Chief Legal Officer & Corporate Secretary		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. This information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Atmel Corporation

Application No./Patent No.: 14/516,845 Filed/Issue Date: 17 October 2014

Titled: Active Stylus with High Voltage

Atmel Corporation, a Delaware

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. [✓] The assignee of the entire right, title, and interest.

2. [ ] An assignee of less than the entire right, title, and interest (check applicable box):

   [ ] The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   [ ] There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. [ ] The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. [ ] The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. [ ] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

B. [✓] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Shahrooz Shahparnia et al. To: Atmel Corporation

   The document was recorded in the United States Patent and Trademark Office at

   Reel 33970, Frame 709, or for which a copy thereof is attached.

2. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce. P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	Date: 6/24/15
Chad D. Terrell	52,279
Printed or Typed Name	Title or Registration Number

Electronic Acknowledgement Receipt

EFS ID:	22724958
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Chad D Terrell/Esmarie Garland
Filer Authorized By:	Chad D Terrell
Attorney Docket Number:	080900.2758
Receipt Date:	24-JUN-2015
Filing Date:	17-OCT-2014
Time Stamp:	13:18:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	0809002758Transmittal.PDF	56802 206d01e627f46c506d1fc4f6a6ca1b47784e127a	no	2

Warnings:

The page size in the PDF is too large. The pages should be 8.5 x 11 or A4. If this PDF is submitted, the pages will be resized upon entry into the Image File Wrapper and may affect subsequent processing

Information:

2		0809002758MiscDocuments.PDF	1206706 c8f75fbfaff91350ae138a222eec602bcdb19cd6	yes	15

Multipart Description/PDF files in .zip description

Document Description	Start	End
Application Data Sheet	1	7
Oath or Declaration filed	8	11
Power of Attorney	12	15

Warnings:

Information:

Total Files Size (in bytes):	1263508

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Shahrooz Shahparnia et al.
Application No.:	14/516,845
Filing Date:	October 17, 2014
Examiner:	
Group Art Unit:	
Confirmation No.:	9862
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmittal Letter

Applicants respectfully submit the following documents to be considered in the above-identified pending patent application:

(a) A corrected Application Data Sheet which identifies the Applicant in the Applicant Information section and, as required, the new information is underlined.

(b) Newly executed Declarations from Shahrooz Shahparnia, Kishore Sundara-Rajan, Yassar Ali and Izhar Bentov to comply with the requirements of 35 U.S.C. § 115, as amended by the America Invents Act.

(d) A Transmittal for Power of Attorney and an executed Power of Attorney to Prosecute Applications before the USPTO.

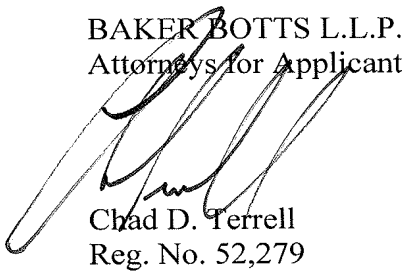
(e) A Statement under 37 C.F.R. 3.73(c).

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 225

Applicants believe no fees are due. The Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicant



Chad D. Terrell
Reg. No. 52,279
Tel. 214.953.6813

Date: June 24, 2015

Customer No. **12323**

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 226

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Shahrooz		Shahparnia	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Campbell	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	US

Inventor 2 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kishore		Sundara-Rajan	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	US

Inventor 3 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Yassar		Ali	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

City	Sunnyvale	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	US

Remove

Inventor 4

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Izhar		Bentov	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	Sunnyvale	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	12323		
Email Address	ptomail1@bakerbotts.com	Add Email	Remove Email

Application Information:

Title of the Invention	Active Stylus with High Voltage		
Attorney Docket Number	080900.2758	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	6	Suggested Figure for Publication (if any)	

Filing By Reference :

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	12323		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the application number blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13362830	2012-01-31
Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Claims benefit of provisional	61553114	2011-10-28

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☒ Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date o f filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(●) Assignee ( ) Legal Representative under 35 U.S.C. 117 ( ) Joint Inventor

( ) Person to whom the inventor is obligated to assign. ( ) Person who shows sufficient proprietary interest

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

If the Applicant is an Organization check here. [X]

Organization Name	Atmel Corporation		
Mailing Address Information For Applicant:			
Address 1	1600 Technology Drive		
Address 2			
City	San Jose	**State/Province**	CA
Country	US	Postal Code	95110-1382
Phone Number		Fax Number	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

Email Address	

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not subsitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication . An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature				Date (YYYY-MM-DD)	2015-06-24
First Name	Chad D.	Last Name	Terrell	Registration Number	52279

Additional Signature may be generated within this form by selecting the Add button.

PTO/AIA/14 (07-14)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	14/516,845
Title of Invention	Active Stylus with High Voltage	

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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Active Stylus with High Voltage

As the below named inventor, I hereby declare that:

This declaration is directed to:

- ☐ The attached application, or
- ☒ United States application or PCT international application number 14/516845 filed on October 17, 2014.

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 under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Shahrooz Shahparnia Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/01 (06-12)
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	Active Stylus with High Voltage

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 14/516845

filed on October 17, 2014

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 under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Kishore Sundara-Rajan Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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LEGAL NAME OF INVENTOR

Inventor: Yassar Ali Date (Optional):

Signature: Y. Ali

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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LEGAL NAME OF INVENTOR

Inventor: Izhar Bentov Date (Optional): 11/19/14

Signature: Izhar Bentov

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758

CONFIRMATION NO. 9862

PUBLICATION NOTICE

12323
Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

OC000000073232405

Title: Active Stylus with High Voltage

Publication No.US-2015-0035810-A1
Publication Date:02/05/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Managment, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/516,845	10/17/2014	Shahrooz Shahparnia	080900.2758

CONFIRMATION NO. 9862

12323
Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

NOTICE

OC000000071530186

Date Mailed: 10/27/2014

INFORMATIONAL NOTICE TO APPLICANT

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Shahrooz Shahparnia
  Kishore Sundara-Rajan
  Yassar Ali
  Izhar Bentov

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 14/516,845

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	280
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	600
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	720
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 80 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 420 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1600

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
14/516,845	10/17/2014	2621	1740	080900.2758	20	3

CONFIRMATION NO. 9862

12323
Baker Botts L.L.P.
2001 Ross Avenue, 6th Floor
Dallas, TX 75201

FILING RECEIPT

OC000000071530185

Date Mailed: 10/27/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Shahrooz Shahparnia, Campbell, CA;
Kishore Sundara-Rajan, San Jose, CA;
Yassar Ali, Sunnyvale, CA;
Izhar Bentov, Sunnyvale, CA;

Applicant(s)

Shahrooz Shahparnia, Campbell, CA;
Kishore Sundara-Rajan, San Jose, CA;
Yassar Ali, Sunnyvale, CA;
Izhar Bentov, Sunnyvale, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 13/362,830 01/31/2012 PAT 8866767
which claims benefit of 61/553,114 10/28/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper **Authorization to Permit Access to Application by Participating Offices** (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 10/24/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/516,845**

Projected Publication Date: 02/05/2015

Non-Publication Request: No

Early Publication Request: No

Title

Active Stylus with High Voltage

Preliminary Class

178

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 242

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

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The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s):	Shahrooz Shahparnia et al.
Application No.:	Unassigned
Filing Date:	Herewith
Examiner:	Unknown
Art Unit:	Unknown
Title:	*Active Stylus with High Voltage*

Preliminary Amendment

Applicant respectfully requests that this application be amended as follows prior to its initial examination:

In the Abstract

Please replace the Abstract that follows the heading ABSTRACT on page 25 of the Specification with the following paragraph:

> In certain embodiments, a stylus includes one or more electrodes and one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device. At least some of the signals are high-voltage signals generated by a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts. The stylus includes a stylus tip, and one or more of the one or more electrodes are disposed at the stylus tip.

In the Specification:

Please delete the heading RELATED APPLICATION appearing on page 1 of the Specification. Please delete Paragraph [1] on page 1 of the Specification.

Below the title ACTIVE STYLUS WITH HIGH VOLTAGE appearing on page 1 of the Specification, please insert the heading RELATED APPLICATIONS. Please insert the following paragraph below that heading:

[1] This application is a continuation, under 35 U.S.C. § 120, of U.S. Patent Application Serial No. 13/362,830, filed 31 January 2012, which claims the benefit under 35 U.S.C. § 119(e) of U.S. Provisional Patent Application Serial No. 61/553,114, filed 28 October 2011, all of which are incorporated herein by reference.

In the Claims:

1-20. Cancelled

21. (New) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

22. (New) The stylus of Claim 21, wherein the high voltage is produced by a transformer in the stylus.

23. (New) The stylus of Claim 21, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

24. (New) The stylus of Claim 21, wherein the high-voltage signals identify a location of the stylus relative to the touch sensor of the device.

25. (New) The stylus of Claim 21, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

26. (New) The stylus of Claim 25, wherein the object is least a part of a human hand.

27. (New) The stylus of Claim 25, wherein the high-voltage signals are based on a voltage used by at least a portion of the touch sensor of the device.

28. (New) A stylus comprising:

one or more electrodes;

one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the high voltage based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

29. (New) The stylus of Claim 28, wherein the high voltage is produced by a transformer in the stylus.

30. (New) The stylus of Claim 28, wherein the high voltage comprises a voltage within the voltage range of approximately 10 to approximately 20 volts.

31. (New) The stylus of Claim 28, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

32. (New) The stylus of Claim 31, wherein the object is least a part of a human hand.

33. (New) The stylus of Claim 31, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

34. (New) The stylus of Claim 31, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

35. (New) One or more non-transitory computer-readable storage media embodying logic that is operable when executed to:

transmit electromagnetic signals from a stylus to a device through a touch sensor of the device, at least some of the signals comprising high-voltage signals generated at least in part by a high voltage comprising a relatively large potential difference compared to a voltage within a voltage range of approximately 1 to approximately 3 volts, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device; and

a stylus tip, one or more of the one or more electrodes being disposed at the stylus tip.

36. (New) The media of Claim 35, wherein the high voltage is produced by a transformer in the stylus.

37. (New) The media of Claim 35, wherein the high voltage is based on a voltage difference between a drive line of the touch sensor and a sense line of the touch sensor

38. (New) The media of Claim 37, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the high-voltage signals are used to simulate or distinguish:

contact by an object other than the stylus with the device; or

a presence of the object near the touch sensor of the device.

39. (New) The media of Claim 38, wherein the high voltage has the same polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

40. (New) The media of Claim 38, wherein the high voltage has the opposite polarity as the voltage difference between the drive line of the touch sensor and the sense line of the touch sensor.

Remarks

Please cancel Claim 1-20 without prejudice or disclaimer and add new Claims 21-40, none of which are believed to add any new matter. Entry of this Amendment is respectfully requested. This Amendment is consistent with the priority claim indicated on the Application Data Sheet filed with this Application.

If the Examiner feels that a telephone conference would advance prosecution of this Application in any manner, the Examiner is invited to contact Chad D. Terrell, Attorney for Applicants, at the Examiner's convenience at (214) 953-6813.

Applicants believe no fees are due for this submission. However, the Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicants

Chad D. Terrell
Registration No. 52,279

Dated: 17 October 2014

Correspondence Address:

Customer No. 12323

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	Shahrooz Shahparnia, et al
Application No.	Unassigned
Filing Date:	Herewith
Group Art Unit:	Unassigned
Examiner:	Unassigned
Title:	*Active Stylus with High Voltage*

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313.1450

Dear Sir:

Information Disclosure Statement

Applicants submit this IDS under 37 C.F.R. § 1.97(b)(3). Applicants respectfully request, pursuant to 37 C.F.R. §§1.56, 1.97, and 1.98, that the references listed on the attached PTO/SB/08 form be considered and cited in the examination of the above-identified continuation patent application. This application is a continuing application under 35 U.S.C. § 120 of U.S. Application Serial No. **13/362,830**, filed **January 31, 2012,** by Applicants and entitled "*Active Stylus with High Voltage*." Pursuant to 37 C.F.R. § 1.98(d), Applicants have not provided copies of references previously submitted to or cited by the Office in U.S. Patent Application No. **13/362,830**.

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 252

Moreover, under 37 C.F.R. § 1.98(a)(2)(ii), Applicants have not provided copies of U.S. patents and U.S. patent application publications. To the extent applicable, under 37 C.F.R. §1.98(a)(2)(ii), references other than U.S. patents and U.S. patent application publications are enclosed for the Examiner's convenience, if not previously submitted to or cited by the Office in U.S. Patent Application No. **13/362,830**. Furthermore, pursuant to 37 C.F.R. §§1.97(g) and (h), Applicants make no representation that a search has been made, that these references are material to patentability of the present application, or that these documents qualify as prior art.

Applicants believe no fees are due. However, the Commissioner is authorized to charge any necessary fees and credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,
BAKER BOTTS L.L.P.
Attorneys for Applicants

Chad D. Terrell
Registration No. 52,279

Dated: 10/17/14

Correspondence Address:

Customer No. 12323

Petitioner Shenzhen Qianfenyi Intelligent Technology Co., Ltd.
Exhibit 1002 Page 253

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

ISSUED U.S. PATENTS AND PUBLISHED U.S. APPLICATIONS

		DOCUMENT NUMBER	PUBLICATION OR ISSUE DATE	FIRST NAMED INVENTOR
	A	4,695,680	09-22-1987	Kable
	B	5,657,054	08-1997	Files et al.
	C	5,973,677	10-26-1999	Gibbons
	D	6,377,248	04-2002	Partow et al.
	E	7,612,767	11-03-2009	Griffin
	F	7,663,607	02-16-2010	Hotelling
	G	7,920,129	04-05-2011	Hotelling
	H	8,031,094	10-04-2011	Hotelling
	I	8,031,174	10-04-2011	Hamblin
	J	8,049,732	11-01-2011	Hotelling
	K	8,094,133	01-2012	Sato et al.
	L	2008/0238885	10-02-2008	Zachut
	M	2009/0095540	04-16-2009	Zachut
	N	2009/0115725	05-07-2009	Shemesh
	O	2009/0127005	05-21-2009	Zachut
	P	2009/0153152	06-18-2009	Maharyta
	Q	2009/0184939	07-23-2009	Wohlstadter
	R	2009/0251434	10-08-2009	Rimon
	S	2010/0006350	01-14-2010	Elias
	T	2010/0155153	06-24-2010	Zachut
	U	2010/0292945	11-18-2010	Reynolds
	V	2010/0315384	12-16-2010	Hargreaves
	W	2011/0007029	01-13-2011	Ben-David
	X	2013/0106740	05-2013	Yilmaz et al.
	Y	2013/0106720	05-2013	Shahparnia et al.
	Z	2013/0106714	05-2013	Shahparnia et al.
	AA	2013/0106741	05-2013	Pedersen et al.

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	PUBLICATION OR ISSUE DATE	COUNTRY	TRANSLATION (YES OR NO)

NON-PATENT LITERATURE (NPL)

		DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
	BB	KYUNG, KI-UK *et al.*, "wUbi-Pen : Windows Graphical User Interface Interacting with Haptic Feedback Stylus," *SIGGRAPH,*, Los Angeles, California	August 2008
	CC	LEE, JOHNNY C. *et al.*, "Haptic Pen: A Tactile Feedback Stylus for Touch Screens," *UIST '04*, Vol. 6, Issue 2, Santa Fe, New Mexico	Oct. 2004

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

	DD	SONG, HYUNYOUNG *et al.,* "Grips and Gestures on a Multi-Touch Pen," *CHI 2011, Session: Flexible Grips & Gestures*, Vancouver, BC, Canada	May 2011
	EE	TAN, ENG CHONG et al., "Application of Capacitive Coupling to the Design of an Absolute-Coordinate Pointing Device," IEEE Transactions on Instrumentation and Measurement, Vol. 54, No. 5	Oct. 2005

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. PATENT AND TRADEMARK OFFICE

PTO/SB/08 **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**	**Application Number:** Unassigned		**First Named Inventor:** Shahrooz Shahparnia
	Attorney Docket No: 080900.2758	**Art Unit:** **Confirmation:**	**Filing Date:** Herewith

ISSUED U.S. PATENTS AND PUBLISHED U.S. APPLICATIONS				
		DOCUMENT NUMBER	**PUBLICATION OR ISSUE DATE**	**FIRST NAMED INVENTOR**
	A	7,875,814	25 January 2011	Chen
	B	8,040,326	18 October 2011	Hotelling
	C	8,179,381	15 May 2012	Frey
	D	8,638,320	01-2014	Harley et al.
	E	2009/0315854	24 December 2009	Matsuo
	F	2012/0242588	27 September 2012	Myers
	G	2012/0242592	27 September 2012	Rothkopf
	H	2012/0243151	27 September 2012	Lynch
	I	2012/0243719	27 September 2012	Franklin
	J	2012-0327041	27 December 2012	Harley
	K	2014/0049478	02-2014	Brunet et al.
UNPUBLISHED U.S. APPLICATIONS				
		DOCUMENT NUMBER	**FILING DATE**	**FIRST NAMED INVENTOR**
	L	61/454936	21 March 2011	Myers
	M	61/454950	21 March 2011	Lynch
	N	61/454894	21 March 2011	Rothkopf

FOREIGN PATENT DOCUMENTS					
		DOCUMENT NUMBER	**PUBLICATION OR ISSUE DATE**	**COUNTRY**	**TRANSLATION (YES OR NO)**
	O	WO 2012/129247	09/27/2012	PCT	
	P				
	Q				

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

U.S. PATENT AND TRADEMARK OFFICE

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (07-09)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	080900.2758

U.S.PATENTS

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7864503		2011-01-04	Cahng, Yu-Huel	
	2	8217902		2012-07-10	Chang, Ching-Yang	
	3	8723824		2014-05-13	Myers, Scott A.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20130076612		2013-03-28	Myers, Scott A.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							☐

EFS Web 2.1.16

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	
	First Named Inventor	
	Art Unit	
	Examiner Name	
	Attorney Docket Number	080900.2758

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Shahparnia, USSN 13/362,830, Issue Fee 01 October 2014 (Attorney Docket 080900.1318).	☐
	2	Shahparnia, USSN 13/362,830, Notice of Allowance 19 June 2014 (Attorney Docket 080900.1318).	☐
	3	Shahparnia, USSN 13/362,830, Amendment Non-final Rejection 28 May 2014 (Attorney Docket 080900.1318).	☐
	4	Shahparnia, USSN 13/362,830, Non-final Rejection 28 February 2014 (Attorney Docket 080900.1318).	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

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[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Filer:	Chad D Terrell/Esmarie Garland
Attorney Docket Number:	080900.2758

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Utility application filing	1011	1	280	280
Utility Search Fee	1111	1	600	600
Utility Examination Fee	1311	1	720	720
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**1740**

Electronic Acknowledgement Receipt

EFS ID:	20445165
Application Number:	14516845
International Application Number:	
Confirmation Number:	9862
Title of Invention:	Active Stylus with High Voltage
First Named Inventor/Applicant Name:	Shahrooz Shahparnia
Customer Number:	12323
Filer:	Chad D Terrell/Esmarie Garland
Filer Authorized By:	Chad D Terrell
Attorney Docket Number:	080900.2758
Receipt Date:	17-OCT-2014
Filing Date:	
Time Stamp:	13:01:15
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	$1740
RAM confirmation Number	9696
Deposit Account	020384
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	0809002758ADS.PDF	486476 8bb42dda243b6d1299afadd3ac1a482eb26f6072	no	7

Warnings:

Information:

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2		0809002758PatAppln.PDF	1473308 b6563a44c4f1295a86421dd65364bd5600edf8d8	yes	25

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	21
Claims	22	24
Abstract	25	25

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Information:

3	Drawings-only black and white line drawings	0809002758Drawings.PDF	93015 693ddf33437d7cdae1b9f0e806d38605bf49f284	no	8

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Information:

4	Preliminary Amendment	0809002758PrelimAmend.PDF	250246 613ca5dc6634af18d750113491bc13dfb2978048	no	8

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Information:

5	Other Reference-Patent/App/Search documents	1318IssueNotification01Oct14.pdf	54769 2128425ad3fbe0bf1cb8b8258d1b325ead2a4e1b	no	1
Warnings:					
Information:					
6	Other Reference-Patent/App/Search documents	1318NoticeOfAllow19June14.pdf	395538 439d2314425e07d497b1bd0e7ca7214a3dc2103f	no	6
Warnings:					
Information:					
7	Other Reference-Patent/App/Search documents	1318Amendment28May14.pdf	410916 a2fa62e7cb293c9f36457d2b517f5d146c0d88ac	no	10
Warnings:					
Information:					
8	Other Reference-Patent/App/Search documents	1318NFRejection28Feb14.pdf	242394 4f3760f802468ee6469419e8a584b78caede5b65	no	7
Warnings:					
Information:					
9		0809002758IDS.PDF	373954 fa696969a6f2b74ad5881ed893985e45538f2610	yes	7

Multipart Description/PDF files in .zip description

Document Description	Start	End
Transmittal Letter	1	2
Information Disclosure Statement (IDS) Form (SB08)	3	7

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Information:

10	Fee Worksheet (SB06)	fee-info.pdf	36322 8aa8f4502de823afc5464a41b1ec49f374dbef93	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	3816938	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/14 (12-13)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	
Title of Invention	Active Stylus with High Voltage	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Shahrooz		Shahparnia	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Campbell	State/Province	CA	Country of Residence	

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kishore		Sundara-Rajan	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	San Jose	State/Province	CA	Country of Residence	

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Yassar		Ali	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

PTO/AIA/14 (12-13)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	
Title of Invention	Active Stylus with High Voltage	

City	Sunnyvale	State/Province	CA	Country of Residence	

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	

Remove

Inventor 4

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Izhar		Bentov	

Residence Information (Select One) (•) US Residency ( ) Non US Residency ( ) Active US Military Service

City	Sunnyvale	State/Province	CA	Country of Residence	

Mailing Address of Inventor:

Address 1	1600 Technology Drive		
Address 2			
City	San Jose	State/Province	CA
Postal Code	95110-1382	Country	

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	12323		
Email Address	ptomail1@bakerbotts.com	Add Email	Remove Email

Application Information:

Title of the Invention	Active Stylus with High Voltage		
Attorney Docket Number	080900.2758	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	8	Suggested Figure for Publication (if any)	

Filing By Reference :

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	
Title of Invention	Active Stylus with High Voltage	

Only compete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

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Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
	Continuation of	13/362830	2012-01-31
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Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
13/362830	Claims benefit of provisional	61/553114	2011-10-28

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	080900.2758
	Application Number	
Title of Invention	Active Stylus with High Voltage	

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Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
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If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◯ Assignee	◯ Legal Representative under 35 U.S.C. 117	◯ Joint Inventor
◯ Person to whom the inventor is obligated to assign.	◯ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor :

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	Application Number	
Title of Invention	Active Stylus with High Voltage	

Mailing Address Information For Applicant:			
Address 1			
Address 2			
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Phone Number		Fax Number	
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	Application Number	
Title of Invention	Active Stylus with High Voltage	

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Signature				Date (YYYY-MM-DD)	2014-10-17
First Name	Chad D.	Last Name	Terrell	Registration Number	52279

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ACTIVE STYLUS WITH HIGH VOLTAGE

RELATED APPLICATION

[1] This application claims the benefit, under 35 U.S.C. § 119(e), of U.S. Provisional Patent Application No. 61/553114, filed 28 October 2011, which is incorporated herein by reference.

TECHNICAL FIELD

[2] This disclosure generally relates to active styluses.

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BACKGROUND

[3] A touch sensor may detect the presence and location of a touch or the proximity of an object (such as a user's finger or a stylus) within a touch-sensitive area of the touch sensor overlaid on a display screen, for example. In a touch-sensitive-display application, the touch sensor may enable a user to interact directly with what is displayed on the screen, rather than indirectly with a mouse or touch pad. A touch sensor may be attached to or provided as part of a desktop computer, laptop computer, tablet computer, personal digital assistant (PDA), smartphone, satellite navigation device, portable media player, portable game console, kiosk computer, point-of-sale device, or other suitable device. A control panel on a household or other appliance may include a touch sensor.

[4] There are a number of different types of touch sensors, such as, for example, resistive touch screens, surface acoustic wave touch screens, and capacitive touch screens. Herein, reference to a touch sensor may encompass a touch screen, and vice versa, where appropriate. When an object touches or comes within proximity of the surface of the capacitive touch screen, a change in capacitance may occur within the touch screen at the location of the touch or proximity. A touch-sensor controller may process the change in capacitance to determine its position on the touch screen.

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BRIEF DESCRIPTION OF THE DRAWINGS

[5] FIGURE 1 illustrates an example touch sensor with an example touch-sensor controller.

[6] FIGURE 2 illustrates an example active stylus exterior.

[7] FIGURE 3 illustrates an example active stylus interior.

[8] FIGURE 4 illustrates an example active stylus with touch sensor device.

[9] FIGURE 5 illustrates example power management systems and power sources for a touch sensor system.

[10] FIGURES 6A and 6B illustrate one or more electrodes in a tip of an active stylus, the electrodes transmitting high voltage signals that communicate the stylus's relative location or movement to a touch-sensitive device.

[11] FIGURE 7 illustrates an active stylus tip transmitting high-voltage signals that transmit information about the active stylus's contact with a touch-sensitive device to the touch-sensitive device.

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DESCRIPTION OF EXAMPLE EMBODIMENTS

[12] FIGURE 1 illustrates an example touch sensor 10 with an example touch-sensor controller 12. Touch sensor 10 and touch-sensor controller 12 may detect the presence and location of a touch or the proximity of an object within a touch-sensitive area of touch sensor 10. Herein, reference to a touch sensor may encompass both the touch sensor and its touch-sensor controller, where appropriate. Similarly, reference to a touch-sensor controller may encompass both the touch-sensor controller and its touch sensor, where appropriate. Touch sensor 10 may include one or more touch-sensitive areas, where appropriate. Touch sensor 10 may include an array of drive and sense electrodes (or an array of electrodes of a single type) disposed on one or more substrates, which may be made of a dielectric material. Herein, reference to a touch sensor may encompass both the electrodes of the touch sensor and the substrate(s) that they are disposed on, where appropriate. Alternatively, where appropriate, reference to a touch sensor may encompass the electrodes of the touch sensor, but not the substrate(s) that they are disposed on.

[13] An electrode (whether a ground electrode, guard electrode, drive electrode, or sense electrode) may be an area of conductive material forming a shape, such as for example a disc, square, rectangle, thin line, other suitable shape, or suitable combination of these. One or more cuts in one or more layers of conductive material may (at least in part) create the shape of an electrode, and the area of the shape may (at least in part) be bounded by those cuts. In particular embodiments, the conductive material of an electrode may occupy approximately 100% of the area of its shape. As an example and not by way of limitation, an electrode may be made of indium tin oxide (ITO) and the ITO of the electrode may occupy approximately 100% of the area of its shape (sometimes referred to as a 100% fill), where appropriate. In particular embodiments, the conductive material of an electrode may occupy substantially less than 100% of the area of its shape. As an example and not by way of limitation, an electrode may be made of fine lines of metal or other conductive material (FLM), such as for example copper, silver, or a copper- or silver-based material, and the fine lines of conductive material may occupy approximately 5% of the area of its shape in a hatched, mesh, or other suitable pattern. Herein, reference to FLM encompasses such material, where appropriate. Although this disclosure describes or illustrates particular electrodes made of particular conductive material forming

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particular shapes with particular fill percentages having particular patterns, this disclosure contemplates any suitable electrodes made of any suitable conductive material forming any suitable shapes with any suitable fill percentages having any suitable patterns.

[14] Where appropriate, the shapes of the electrodes (or other elements) of a touch sensor may constitute in whole or in part one or more macro-features of the touch sensor. One or more characteristics of the implementation of those shapes (such as, for example, the conductive materials, fills, or patterns within the shapes) may constitute in whole or in part one or more micro-features of the touch sensor. One or more macro-features of a touch sensor may determine one or more characteristics of its functionality, and one or more micro-features of the touch sensor may determine one or more optical features of the touch sensor, such as transmittance, refraction, or reflection.

[15] A mechanical stack may contain the substrate (or multiple substrates) and the conductive material forming the drive or sense electrodes of touch sensor 10. As an example and not by way of limitation, the mechanical stack may include a first layer of optically clear adhesive (OCA) beneath a cover panel. The cover panel may be clear and made of a resilient material suitable for repeated touching, such as for example glass, polycarbonate, or poly(methyl methacrylate) (PMMA). This disclosure contemplates any suitable cover panel made of any suitable material. The first layer of OCA may be disposed between the cover panel and the substrate with the conductive material forming the drive or sense electrodes. The mechanical stack may also include a second layer of OCA and a dielectric layer (which may be made of polyethylene terephthalate (PET) or another suitable material, similar to the substrate with the conductive material forming the drive or sense electrodes). As an alternative, where appropriate, a thin coating of a dielectric material may be applied instead of the second layer of OCA and the dielectric layer. The second layer of OCA may be disposed between the substrate with the conductive material making up the drive or sense electrodes and the dielectric layer, and the dielectric layer may be disposed between the second layer of OCA and an air gap to a display of a device including touch sensor 10 and touch-sensor controller 12. As an example only and not by way of limitation, the cover panel may have a thickness of approximately 1 mm; the first layer of OCA may have a thickness of approximately 0.05 mm; the substrate with the conductive

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material forming the drive or sense electrodes may have a thickness of approximately 0.05 mm; the second layer of OCA may have a thickness of approximately 0.05 mm; and the dielectric layer may have a thickness of approximately 0.05 mm. Although this disclosure describes a particular mechanical stack with a particular number of particular layers made of particular materials and having particular thicknesses, this disclosure contemplates any suitable mechanical stack with any suitable number of any suitable layers made of any suitable materials and having any suitable thicknesses. As an example and not by way of limitation, in particular embodiments, a layer of adhesive or dielectric may replace the dielectric layer, second layer of OCA, and air gap described above, with there being no air gap to the display.

[16] One or more portions of the substrate of touch sensor 10 may be made of polyethylene terephthalate (PET) or another suitable material. This disclosure contemplates any suitable substrate with any suitable portions made of any suitable material. In particular embodiments, the drive or sense electrodes in touch sensor 10 may be made of ITO in whole or in part. In particular embodiments, the drive or sense electrodes in touch sensor 10 may be made of fine lines of metal or other conductive material. As an example and not by way of limitation, one or more portions of the conductive material may be copper or copper-based and have a thickness of approximately 5 μm or less and a width of approximately 10 μm or less. As another example, one or more portions of the conductive material may be silver or silver-based and similarly have a thickness of approximately 5 μm or less and a width of approximately 10 μm or less. This disclosure contemplates any suitable electrodes made of any suitable material.

[17] Touch sensor 10 may implement a capacitive form of touch sensing. In a mutual-capacitance implementation, touch sensor 10 may include an array of drive and sense electrodes forming an array of capacitive nodes. A drive electrode and a sense electrode may form a capacitive node. The drive and sense electrodes forming the capacitive node may come near each other, but not make electrical contact with each other. Instead, the drive and sense electrodes may be capacitively coupled to each other across a space between them. A pulsed or alternating voltage applied to the drive electrode (by touch-sensor controller 12) may induce a charge on the sense electrode, and the amount of charge induced may be susceptible to external influence (such as a touch or the proximity of an object). When an object touches or comes

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within proximity of the capacitive node, a change in capacitance may occur at the capacitive node and touch-sensor controller 12 may measure the change in capacitance. By measuring changes in capacitance throughout the array, touch-sensor controller 12 may determine the position of the touch or proximity within the touch-sensitive area(s) of touch sensor 10.

[18] In a self-capacitance implementation, touch sensor 10 may include an array of electrodes of a single type that may each form a capacitive node. When an object touches or comes within proximity of the capacitive node, a change in self-capacitance may occur at the capacitive node and controller 12 may measure the change in capacitance, for example, as a change in the amount of charge needed to raise the voltage at the capacitive node by a pre-determined amount. As with a mutual-capacitance implementation, by measuring changes in capacitance throughout the array, controller 12 may determine the position of the touch or proximity within the touch-sensitive area(s) of touch sensor 10. This disclosure contemplates any suitable form of capacitive touch sensing, where appropriate.

[19] In particular embodiments, one or more drive electrodes may together form a drive line running horizontally or vertically or in any suitable orientation. Similarly, one or more sense electrodes may together form a sense line running horizontally or vertically or in any suitable orientation. In particular embodiments, drive lines may run substantially perpendicular to sense lines. Herein, reference to a drive line may encompass one or more drive electrodes making up the drive line, and vice versa, where appropriate. Similarly, reference to a sense line may encompass one or more sense electrodes making up the sense line, and vice versa, where appropriate.

[20] Touch sensor 10 may have drive and sense electrodes disposed in a pattern on one side of a single substrate. In such a configuration, a pair of drive and sense electrodes capacitively coupled to each other across a space between them may form a capacitive node. For a self-capacitance implementation, electrodes of only a single type may be disposed in a pattern on a single substrate. In addition or as an alternative to having drive and sense electrodes disposed in a pattern on one side of a single substrate, touch sensor 10 may have drive electrodes disposed in a pattern on one side of a substrate and sense electrodes disposed in a pattern on another side of the substrate. Moreover, touch sensor 10 may have drive electrodes disposed in a

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pattern on one side of one substrate and sense electrodes disposed in a pattern on one side of another substrate. In such configurations, an intersection of a drive electrode and a sense electrode may form a capacitive node. Such an intersection may be a location where the drive electrode and the sense electrode "cross" or come nearest each other in their respective planes. The drive and sense electrodes do not make electrical contact with each other—instead they are capacitively coupled to each other across a dielectric at the intersection. Although this disclosure describes particular configurations of particular electrodes forming particular nodes, this disclosure contemplates any suitable configuration of any suitable electrodes forming any suitable nodes. Moreover, this disclosure contemplates any suitable electrodes disposed on any suitable number of any suitable substrates in any suitable patterns.

[21] As described above, a change in capacitance at a capacitive node of touch sensor 10 may indicate a touch or proximity input at the position of the capacitive node. Touch-sensor controller 12 may detect and process the change in capacitance to determine the presence and location of the touch or proximity input. Touch-sensor controller 12 may then communicate information about the touch or proximity input to one or more other components (such one or more central processing units (CPUs)) of a device that includes touch sensor 10 and touch-sensor controller 12, which may respond to the touch or proximity input by initiating a function of the device (or an application running on the device). Although this disclosure describes a particular touch-sensor controller having particular functionality with respect to a particular device and a particular touch sensor, this disclosure contemplates any suitable touch-sensor controller having any suitable functionality with respect to any suitable device and any suitable touch sensor.

[22] Touch-sensor controller 12 may be one or more integrated circuits (ICs), such as for example general-purpose microprocessors, microcontrollers, programmable logic devices (PLDs) or programmable logic arrays (PLAs), fuse-programmable arrays (FPGAs), or application-specific ICs (ASICs). In particular embodiments, touch-sensor controller 12 comprises analog circuitry, digital logic, and digital non-volatile memory. In particular embodiments, touch-sensor controller 12 is disposed on a flexible printed circuit (FPC) bonded to the substrate of touch sensor 10, as described below. The FPC may be active or passive, where appropriate. In particular embodiments multiple touch-sensor controllers 12 are disposed

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on the FPC. Touch-sensor controller 12 may include a processor unit, a drive unit, a sense unit, and a storage unit. The drive unit may supply drive signals to the drive electrodes of touch sensor 10. The sense unit may sense charge at the capacitive nodes of touch sensor 10 and provide measurement signals to the processor unit representing capacitances at the capacitive nodes. The processor unit may control the supply and timing of drive signals to the drive electrodes by the drive unit and process measurement signals from the sense unit to detect and process the presence and location of a touch or proximity input within the touch-sensitive area(s) of touch sensor 10. The processor unit may also track changes in the position of a touch or proximity input within the touch-sensitive area(s) of touch sensor 10. The storage unit may store programming for execution by the processor unit, including programming for controlling the drive unit to supply drive signals to the drive electrodes, programming for processing measurement signals from the sense unit, and other suitable programming, where appropriate. Although this disclosure describes a particular touch-sensor controller having a particular implementation with particular components, this disclosure contemplates any suitable touch-sensor controller having any suitable implementation with any suitable components.

[23] Tracks 14 of conductive material disposed on the substrate of touch sensor 10 may couple the drive or sense electrodes of touch sensor 10 to connection pads 16, also disposed on the substrate of touch sensor 10. As described below, connection pads 16 facilitate coupling of tracks 14 to touch-sensor controller 12. Tracks 14 may extend into or around (e.g. at the edges of) the touch-sensitive area(s) of touch sensor 10. Particular tracks 14 may provide drive connections for coupling touch-sensor controller 12 to drive electrodes of touch sensor 10, through which the drive unit of touch-sensor controller 12 may supply drive signals to the drive electrodes. Other tracks 14 may provide sense connections for coupling touch-sensor controller 12 to sense electrodes of touch sensor 10, through which the sense unit of touch-sensor controller 12 may sense charge at the capacitive nodes of touch sensor 10. Tracks 14 may be made of fine lines of metal or other conductive material. As an example and not by way of limitation, the conductive material of tracks 14 may be copper or copper-based and have a width of approximately 100 μm or less. As another example, the conductive material of tracks 14 may be silver or silver-based and have a width of approximately 100 μm or less. In particular

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embodiments, tracks 14 may be made of ITO in whole or in part in addition or as an alternative to fine lines of metal or other conductive material. Although this disclosure describes particular tracks made of particular materials with particular widths, this disclosure contemplates any suitable tracks made of any suitable materials with any suitable widths. In addition to tracks 14, touch sensor 10 may include one or more ground lines terminating at a ground connector (which may be a connection pad 16) at an edge of the substrate of touch sensor 10 (similar to tracks 14).

[24] Connection pads 16 may be located along one or more edges of the substrate, outside the touch-sensitive area(s) of touch sensor 10. As described above, touch-sensor controller 12 may be on an FPC. Connection pads 16 may be made of the same material as tracks 14 and may be bonded to the FPC using an anisotropic conductive film (ACF). Connection 18 may include conductive lines on the FPC coupling touch-sensor controller 12 to connection pads 16, in turn coupling touch-sensor controller 12 to tracks 14 and to the drive or sense electrodes of touch sensor 10. In another embodiment, connection pads 16 may be connected to an electro-mechanical connector (such as a zero insertion force wire-to-board connector); in this embodiment, connection 18 may not need to include an FPC. This disclosure contemplates any suitable connection 18 between touch-sensor controller 12 and touch sensor 10.

[25] FIGURE 2 illustrates an example exterior of an example active stylus 20. Active stylus 20 may include one or more components, such as buttons 30 or sliders 32 and 34 integrated with an outer body 22. These external components may provide for interaction between active stylus 20 and a user or between a device and a user. As an example and not by way of limitation, interactions may include communication between active stylus 20 and a device, enabling or altering functionality of active stylus 20 or a device, or providing feedback to or accepting input from one or more users. The device may by any suitable device, such as, for example and without limitation, a desktop computer, laptop computer, tablet computer, personal digital assistant (PDA), smartphone, satellite navigation device, portable media player, portable game console, kiosk computer, point-of-sale device, or other suitable device. Although this disclosure provides specific examples of particular components configured to provide particular interactions, this disclosure contemplates any suitable component configured to provide any

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suitable interaction. Active stylus 20 may have any suitable dimensions with outer body 22 made of any suitable material or combination of materials, such as, for example and without limitation, plastic or metal. In particular embodiments, exterior components (e.g. 30 or 32) of active stylus 20 may interact with internal components or programming of active stylus 20 or may initiate one or more interactions with one or more devices or other active styluses 20.

[26] As described above, actuating one or more particular components may initiate an interaction between active stylus 20 and a user or between the device and the user. Components of active stylus 20 may include one or more buttons 30 or one or more sliders 32 and 34. As an example and not by way of limitation, buttons 30 or sliders 32 and 34 may be mechanical or capacitive and may function as a roller, trackball, or wheel. As another example, one or more sliders 32 or 34 may function as a vertical slider 34 aligned along a longitudinal axis, while one or more wheel sliders 32 may be aligned along the circumference of active stylus 20. In particular embodiments, capacitive sliders 32 and 34 or buttons 30 may be implemented using one or more touch-sensitive areas. Touch-sensitive areas may have any suitable shape, dimensions, location, or be made from any suitable material. As an example and not by way of limitation, sliders 32 and 34 or buttons 30 may be implemented using areas of flexible mesh formed using lines of conductive material. As another example, sliders 32 and 34 or buttons 30 may be implemented using a FPC.

[27] Active stylus 20 may have one or more components configured to provide feedback to or accepting feedback from a user, such as, for example and without limitation, tactile, visual, or audio feedback. Active stylus 20 may include one or more ridges or grooves 24 on its outer body 22. Ridges or grooves 24 may have any suitable dimensions, have any suitable spacing between ridges or grooves, or be located at any suitable area on outer body 22 of active stylus 20. As an example and not by way of limitation, ridges 24 may enhance a user's grip on outer body 22 of active stylus 20 or provide tactile feedback to or accept tactile input from a user. Active stylus 20 may include one or more audio components 38 capable of transmitting and receiving audio signals. As an example and not by way of limitation, audio component 38 may contain a microphone capable of recording or transmitting one or more users' voices. As another example, audio component 38 may provide an auditory indication of a power status of

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active stylus 20. Active stylus 20 may include one or more visual feedback components 36, such as a light-emitting diode (LED) indicator. As an example and not by way of limitation, visual feedback component 36 may indicate a power status of active stylus 20 to the user.

[28] One or more modified surface areas 40 may form one or more components on outer body 22 of active stylus 20. Properties of modified surface areas 40 may be different than properties of the remaining surface of outer body 22. As an example and not by way of limitation, modified surface area 40 may be modified to have a different texture, temperature, or electromagnetic characteristic relative to the surface properties of the remainder of outer body 22. Modified surface area 40 may be capable of dynamically altering its properties, for example by using haptic interfaces or rendering techniques. A user may interact with modified surface area 40 to provide any suitable functionally. For example and not by way of limitation, dragging a finger across modified surface area 40 may initiate an interaction, such as data transfer, between active stylus 20 and a device.

[29] One or more components of active stylus 20 may be configured to communicate data between active stylus 20 and the device. For example, active stylus 20 may include one or more tips 26 or nibs. Tip 26 may include one or more electrodes configured to communicate data between active stylus 20 and one or more devices or other active styluses. Tip 26 may be made of any suitable material, such as a conductive material, and have any suitable dimensions, such as, for example, a diameter of 1 mm or less at its terminal end. Active stylus 20 may include one or more ports 28 located at any suitable location on outer body 22 of active stylus 20. Port 28 may be configured to transfer signals or information between active stylus 20 and one or more devices or power sources. Port 28 may transfer signals or information by any suitable technology, such as, for example, by universal serial bus (USB) or Ethernet connections. Port 28 may transmit or receive signals wirelessly, for example using BlueTooth or wireless fidelity (WiFi) technologies. Although this disclosure describes and illustrates a particular configuration of particular components with particular locations, dimensions, composition and functionality, this disclosure contemplates any suitable configuration of suitable components with any suitable locations, dimensions, composition, and functionality with respect to active stylus 20.

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[30] FIGURE 3 illustrates an example internal components of example active stylus 20. Active stylus 20 may include one or more internal components, such as a controller 50, sensors 42, memory 44, or power source 48. In particular embodiments, one or more internal components may be configured to provide for interaction between active stylus 20 and a user or between a device and a user. In other particular embodiments, one or more internal components, in conjunction with one or more external components described above, may be configured to provide interaction between active stylus 20 and a user or between a device and a user. As an example and not by way of limitation, interactions may include communication between active stylus 20 and a device, enabling or altering functionality of active stylus 20 or a device, or providing feedback to or accepting input from one or more users.

[31] Controller 50 may be a microcontroller or any other type of processor suitable for controlling the operation of active stylus 20. Controller 50 may be one or more ICs—such as, for example, general-purpose microprocessors, microcontrollers, PLDs, PLAs, or ASICs. Controller 50 may include a processor unit, a drive unit, a sense unit, and a storage unit. The drive unit may supply signals to electrodes of tip 26 through center shaft 41. The drive unit may also supply signals to control or drive sensors 42 or one or more external components of active stylus 20. The sense unit may sense signals received by electrodes of tip 26 through center shaft 41 and provide measurement signals to the processor unit representing input from a device. The sense unit may also sense signals generated by sensors 42 or one or more external components and provide measurement signals to the processor unit representing input from a user. The processor unit may control the supply and timing of signals to the electrodes of tip 26 and process measurement signals from the sense unit to detect and process input from the device. The processor unit may also process measurement signals from sensors 42 or one or more external components. The storage unit may store programming for execution by the processor unit, including programming for controlling the drive unit to supply signals to the electrodes of tip 26, programming for processing measurement signals from the sense unit corresponding to input from the device, programming for processing measurement signals from sensors 42 or external components to initiate a pre-determined function or gesture to be performed by active stylus 20 or the device, and other suitable programming, where appropriate. As an example and

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not by way of limitation, programming executed by controller 50 may electronically filter signals received from the sense unit. Although this disclosure describes a particular controller 50 having a particular implementation with particular components, this disclosure contemplates any suitable controller having any suitable implementation with any suitable components.

[32] In particular embodiments, active stylus 20 may include one or more sensors 42, such as touch sensors, gyroscopes, accelerometers, contact sensors, or any other type of sensor that detect or measure data about the environment in which active stylus 20 operates. Sensors 42 may detect and measure one or more characteristic of active stylus 20, such as acceleration or movement, orientation, contact, pressure on outer body 22, force on tip 26, vibration, or any other suitable characteristic of active stylus 20. As an example and not by way of limitation, sensors 42 may be implemented mechanically, electronically, or capcitively. As described above, data detected or measured by sensors 42 communicated to controller 50 may initiate a pre-determined function or gesture to be performed by active stylus 20 or the device. In particular embodiments, data detected or received by sensors 42 may be stored in memory 44. Memory 44 may be any form of memory suitable for storing data in active stylus 20. In other particular embodiments, controller 50 may access data stored in memory 44. As an example and not by way of limitation, memory 44 may store programming for execution by the processor unit of controller 50. As another example, data measured by sensors 42 may be processed by controller 50 and stored in memory 44.

[33] Power source 48 may be any type of stored-energy source, including electrical or chemical-energy sources, suitable for powering the operation of active stylus 20. In particular embodiments, power source 48 may be charged by energy from a user or device. As an example and not by way of limitation, power source 48 may be a rechargeable battery that may be charged by motion induced on active stylus 20. In other particular embodiments, power source 48 of active stylus 20 may provide power to or receive power from the device. As an example and not by way of limitation, power may be inductively transferred between power source 48 and a power source of the device.

[34] FIGURE 4 illustrates an example active stylus 20 with an example device 52. Device 52 may have a display (not shown) and a touch sensor with a touch-sensitive area 54.

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Device 52 display may be a liquid crystal display (LCD), a LED display, a LED-backlight LCD, or other suitable display and may be visible though a cover panel and substrate (and the drive and sense electrodes of the touch sensor disposed on it) of device 52. Although this disclosure describes a particular device display and particular display types, this disclosure contemplates any suitable device display and any suitable display types.

[35] Device 52 electronics may provide the functionality of device 52. As example and not by way of limitation, device 52 electronics may include circuitry or other electronics for wireless communication to or from device 52, execute programming on device 52, generating graphical or other user interfaces (UIs) for device 52 display to display to a user, managing power to device 52 from a battery or other power source, taking still pictures, recording video, other suitable functionality, or any suitable combination of these. Although this disclosure describes particular device electronics providing particular functionality of a particular device, this disclosure contemplates any suitable device electronics providing any suitable functionality of any suitable device.

[36] In particular embodiments, active stylus 20 and device 52 may be synchronized prior to communication of data between active stylus 20 and device 52. As an example and not by way of limitation, active stylus 20 may be synchronized to device through a pre-determined bit sequence transmitted by the touch sensor of device 52. As another example, active stylus 20 may be synchronized to device by processing the drive signal transmitted by drive electrodes of the touch sensor of device 52. Active stylus 20 may interact or communicate with device 52 when active stylus 20 is brought in contact with or in proximity to touch-sensitive area 54 of the touch sensor of device 52. In particular embodiments, interaction between active stylus 20 and device 52 may be capacitive or inductive. As an example and not by way of limitation, when active stylus 20 is brought in contact with or in the proximity of touch-sensitive area 54 of device 52, signals generated by active stylus 20 may influence capacitive nodes of touch-sensitive area of device 52 or vice versa. As another example, a power source of active stylus 20 may be inductively charged through the touch sensor of device 52, or vice versa. Although this disclosure describes particular interactions and communications between active stylus 20 and

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device 52, this disclosure contemplates any suitable interactions and communications through any suitable means, such as mechanical forces, current, voltage, or electromagnetic fields.

[37] In particular embodiments, measurement signal from the sensors of active stylus 20 may initiate, provide for, or terminate interactions between active stylus 20 and one or more devices 52 or one or more users, as described above. Interaction between active stylus 20 and device 52 may occur when active stylus 20 is contacting or in proximity to device 52. As an example and not by way of limitation, a user may perform a gesture or sequence of gestures, such as shaking or inverting active stylus 20, whilst active stylus 20 is hovering above touch-sensitive area 54 of device 52. Active stylus may interact with device 52 based on the gesture performed with active stylus 20 to initiate a pre-determined function, such as authenticating a user associated with active stylus 20 or device 52. Although this disclosure describes particular movements providing particular types of interactions between active stylus 20 and device 52, this disclosure contemplates any suitable movement influencing any suitable interaction in any suitable way.

[38] FIGURE 5 illustrates example power management systems and power sources for a touch sensor system. Power management systems and power sources may be associated with components of the touch sensor system, such as active styluses, touch-sensitive devices, and the components associated with the active styluses and touch-sensitive devices. Active stylus 20 may have one or more power sources 48. Likewise, touch-sensitive device 52 may have one or more power sources 58. Power sources 48 and 58 may communicate with controllers 50 and 12, respectively. In particular embodiments, the communication is controlled or monitored by one or more graphical user interfaces operating on any suitable active stylus or device. Power sources 48 and 58 may store, receive, transmit, or produce electric energy suitable for use by a touch sensor system or associated components. In particular embodiments, electric energy is received or transmitted by any suitable method such as wiring, direct physical contact, temperature gradients, piezoelectric materials, mechanical methods, electromagnetic radiation, or any suitable combination thereof. Power sources 48 and 58 may include any suitable component that delivers, receives, produces, or modifies electric energy, such as a transformer. Power sources 48 and 58 may convert any kind of electric energy stored, produced, received, or

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transmitted to any other kind of electric energy suitable for use by a touch sensor system and its associated components. Herein, electric energy may take any suitable form, such as an electric field, a magnetic field, a static configuration of electric charge, and electric current.

[39] Power source 48 may be external or internal to active stylus 20, and power source 58 may be external or internal to touch-sensitive device 52. In particular embodiments, an internal power source is a battery or a capacitor. In particular embodiments, an external power source is a wall outlet or another device, such as a computer. A power source internal to one active stylus or device may be external to another active stylus or device. As an example of a particular embodiment, power source 58 is internal to touch-sensitive device 52, while also serving as an external power source 48 for active stylus 20. While this disclosure describes specific examples of particular embodiments of power sources 48 and 58, this disclosure contemplates any suitable power sources 48 and 58 delivering, receiving, storing or producing any suitable kind of electric energy by any suitable method to or from any suitable sources or destinations.

[40] Active stylus 20 may have one or more power management systems 60. Likewise, touch-sensitive device 52 may have one or more power management systems 56. Power management systems 60 and 56 may communicate with controllers 50 and 12, respectively. In particular embodiments, the communication is controlled or monitored by a graphical user interface operating on an active stylus or device. Power management systems 60 and 56 may control, modify, or record the receipt, production, or transfer of electric energy suitable for use by a touch sensor system or its associated components. In particular embodiments, power management systems 60 and 56 allocate to one or more components associated with a touch sensor system electric energy existing on or incoming to one or more components associated with the touch sensor system. In particular embodiments, power management systems 60 and 56 use criteria, such as metrics, to initiate, allocate, and terminate the allocation of energy between one or more components of a touch sensor system. In particular embodiments, power management systems 60 and 56 allocate a particular amount of power to one or more components associated with a touch sensor system, and are capable of allocating different amounts of power to particular components at different times. As an example, a power

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management system 60 determines power modes of an active stylus. A power mode describes the amount of power sent to one or more components associated with an active stylus. The power management system 60 may transition the active stylus between power modes based at least in part on input from a user or an active stylus or device. A graphical user interface may allow a user to control or monitor the power modes of an active stylus and the method or criteria used to transition between them.

[41] In particular embodiments, an active stylus may have one or more components, such as a transformer or charge pump, capable of producing substantially high voltage. Herein, high voltage indicates a relatively large potential difference compared to voltages used by an active stylus in normal operation, whether the relatively large potential difference is positive or negative. As an example, an active stylus produces voltage of approximately 1-3 volts while in normal operation. An electrical circuit of the active stylus contains a transformer capable of converting ordinary-operation voltage to high voltage in the range of 10-20 volts, for example approximately 12 volts. In particular embodiments, the high voltage produced by an active stylus is used to power components of the active stylus, such as one or more electrodes. As an example, a tip of an active stylus may have a substrate on which one or more electrodes are placed. High voltage may be delivered to the one or more electrodes. The one or more electrodes may transmit high-voltage signals to a device, such as a touch-sensitive device. As an example, FIGURES 6A and 6B illustrate one or more electrodes in tip 26 of active stylus 20 transmitting high voltage signals that communicate the stylus's relative location or movement to touch-sensitive device 52.

[42] In FIGURE 6A, active stylus 20 is near touch-sensitive display 54 of touch-sensitive device 52. Tip 26 of active stylus 20 is located a distance D1 away from touch-sensitive display 54. As an example, D1 may be between approximately 0 and 25 millimeters. One or more electrodes in tip 26 receive high voltage from active stylus 20 and output high-voltage signals to touch-sensitive device 52. Conductive material, such as drive and sense lines near touch-sensitive display 54, and associated electronics in touch-sensitive device 52 sense the high-voltage signals. As an example, high-voltage signals produced by electrodes in tip 26 alter the net charge present on sense lines in the proximity of tip 26, communicating information

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about the location of active stylus 20 in directions parallel to touch-sensitive display 52. The net charge present on sense lines also depends on the distance D1 tip 26 is from touch-sensitive display 54, communicating information to touch-sensitive device 52 about the location of active stylus 20 in directions perpendicular to touch-sensitive display 54. In particular embodiments, motion of tip 26 relative to touch-sensitive display 54 is detected by touch-sensitive device 52 through changes in the net charge on sense lines as active stylus 20 moves. In particular embodiments, motion of tip 26 relative to touch-sensitive display 54 is determined by correlating information about the location of active stylus 20 with the points in time active stylus 20 was at that location. In particular embodiments, active stylus 20 may be oriented at any suitable angle with respect to touch-sensitive display 52. As an example, FIGURE 6B illustrates the body of active stylus 20 contacting touch-sensitive display 54 and tip 26 separated from touch-sensitive display 54 by a distance D2.

[43] In particular embodiments, high-voltage signals transmitted from one or more electrodes in an active stylus to a touch-sensitive device when the active stylus is in contact with the device may communicate information about the type of contact. As an example, a touch-sensitive device may differentiate contact from an active stylus from contact by another body, such as a finger. In FIGURE 7, tip 26 of active stylus 20 has one or more electrodes capable of transmitting high-voltage signals. Touch-sensitive device 52 has drive lines capacitively coupled to sense line. Touch-sensitive device 52 may periodically scan drive lines by increasing the ordinary voltage Vo of the drive lines to a scanning voltage Vdrive, as illustrated in graph 64. Vdrive induces net charge on sense lines capacitively coupled to the drive lines. Touch-sensitive device 52 detects contact from a body, such as a finger or palm of hand 62, by detecting reduced net charge on sense lines. Active stylus 20 may reduce net charge on sense lines and thus simulate contact from a body such as hand 62 by detecting the drive voltage Vdrive, inverting it, and transmitting the inverted voltage as a high-voltage (relative to the ordinary voltage Vnormal active stylus 20 uses) signal Vhigh- to the touch-sensitive device. Graph 66 illustrates an example high-voltage signal active stylus 20 uses to simulate contact from a body such as hand 62. Active stylus 20 also may differentiate its contact with touch-sensitive display 54 from contact by hand 62 by increasing the net change on sense lines capacitively coupled to drive lines

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driven with voltage Vdrive. Active stylus 20 does so by detecting the drive voltage Vdrive and transmitting it as a high-voltage (relative to the ordinary voltage Vnormal active stylus 20 uses) signal Vhigh+ back to touch-sensitive display 54. Graph 68 illustrates an example high-voltage signal active stylus 20 uses to differentiate its contact from that of a body such as hand 62. While this disclosure describes transmitting information about contact of an active stylus with a touch-sensitive device by transmitting particular high-voltage signals from the active stylus detected by particular components in a touch-sensitive device, this disclosure contemplates any suitable high-voltage signals transmitted from an active stylus and detected by any suitable components in a touch-sensitive device.

[44] Herein, reference to a computer-readable non-transitory storage medium encompasses a semiconductor-based or other integrated circuit (IC) (such, as for example, a field-programmable gate array (FPGA) or an application-specific IC (ASIC)), a hard disk drive (HDD), a hybrid hard drive (HHD), an optical disc, an optical disc drive (ODD), a magneto-optical disc, a magneto-optical drive, a floppy disk, a floppy disk drive (FDD), magnetic tape, a holographic storage medium, a solid-state drive (SSD), a RAM-drive, a SECURE DIGITAL card, a SECURE DIGITAL drive, or another suitable computer-readable non-transitory storage medium or a combination of two or more of these, where appropriate. A computer-readable non-transitory storage medium may be volatile, non-volatile, or a combination of volatile and non-volatile, where appropriate.

[45] Herein, "or" is inclusive and not exclusive, unless expressly indicated otherwise or indicated otherwise by context. Therefore, herein, "A or B" means "A, B, or both," unless expressly indicated otherwise or indicated otherwise by context. Moreover, "and" is both joint and several, unless expressly indicated otherwise or indicated otherwise by context. Therefore, herein, "A and B" means "A and B, jointly or severally," unless expressly indicated otherwise or indicated otherwise by context.

[46] This disclosure encompasses all changes, substitutions, variations, alterations, and modifications to the example embodiments herein that a person having ordinary skill in the art would comprehend. Moreover, reference in the appended claims to an apparatus or system or a component of an apparatus or system being adapted to, arranged to, capable of, configured to,

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enabled to, operable to, or operative to perform a particular function encompasses that apparatus, system, component, whether or not it or that particular function is activated, turned on, or unlocked, as long as that apparatus, system, or component is so adapted, arranged, capable, configured, enabled, operable, or operative.

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WHAT IS CLAIMED IS:

1. A stylus comprising:

one or more electrodes and one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device, at least some of the signals comprising substantially high voltage;

a stylus tip comprising one or more surface areas; and

a substrate disposed along one or more of the surface areas of the stylus tip, one or more of the one or more electrodes being disposed in or on the substrate.

2. The stylus of Claim 1, wherein the high-voltage signals are produced by a transformer in the stylus.

3. The stylus of Claim 1, wherein substantially high voltage comprises approximately 10-20 volts.

4. The stylus of Claim 1, wherein the signals comprising substantially high voltage are used to communicate information to the device about the stylus's location and movement relative to the touch sensor of the device.

5. The stylus of Claim 1, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the signals comprising substantially high voltage are used to simulate or differentiate contact from another body with or the presence of another body near the touch sensor.

6. The stylus of Claim 5, wherein the body is least a part of a human hand.

7. The stylus of Claim 5, wherein the signals comprising substantially high voltage are based on a voltage signal delivered to at least a portion of the touch sensor of the device.

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8. A method comprising:

transmitting signals from a stylus to a device through a touch sensor of the device, at least some of the signals comprising substantially high voltage, the stylus comprising:

one or more electrodes and one or more computer-readable non-transitory storage media embodying logic for wirelessly transmitting the signals to the device;

a stylus tip comprising one or more surface areas; and

a substrate disposed along one or more of the surface areas of the stylus tip, one or more of the one or more electrodes being disposed in or on the substrate.

9. The method of Claim 8, wherein the high-voltage signals are produced by a transformer in the stylus.

10. The method of Claim 8, wherein substantially high voltage comprises approximately 10-20 volts.

11. The method of Claim 8, wherein the signals comprising substantially high voltage are used to communicate information to the device about the stylus's location and movement relative to the touch sensor of the device.

12. The method of Claim 8, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the signals comprising substantially high voltage are used to simulate or differentiate contact from another body with or the presence of another body near the touch sensor.

13. The method of Claim 12, wherein the body is least a part of a human hand.

14. The method of Claim 12, wherein the signals comprising substantially high voltage are based on a voltage signal used to power at least a portion of the touch sensor of the device.

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15. One or more computer-readable non-transitory storage media embodying logic operable when executed to:

transmit signals from a stylus to a device through a touch sensor of the device, at least some of the signals comprising substantially high voltage, the stylus comprising:

one or more electrodes for wirelessly transmitting the signals to the device;

a stylus tip comprising one or more surface areas; and

a substrate disposed along one or more of the surface areas of the stylus tip, one or more of the one or more electrodes being disposed in or on the substrate.

16. The media of Claim 15, wherein the high-voltage signals are produced by a transformer in the stylus.

17. The media of Claim 15, wherein substantially high voltage comprises approximately 10-20 volts.

18. The media of Claim 15, wherein the signals comprising substantially high voltage are used to communicate information to the device about the stylus's location and movement relative to the touch sensor of the device.

19. The media of Claim 15, wherein, when the stylus is in contact with or in the proximity of the touch sensor of the device, the signals comprising substantially high voltage are used to simulate or differentiate contact from another body with or the presence of another body near the touch sensor.

20. The media of Claim 19, wherein the signals comprising substantially high voltage are based on a voltage signal used to power at least a portion of the touch sensor of the device.

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ABSTRACT

In one embodiment, a stylus has one or more electrodes and one or more computer-readable non-transitory storage media embodying logic for transmitting signals wirelessly to a device through a touch sensor of the device. At least some of the signals comprise substantially high voltage. The stylus has one or more electrodes in or on a tip of the stylus which transmit the high-voltage signals to the device.

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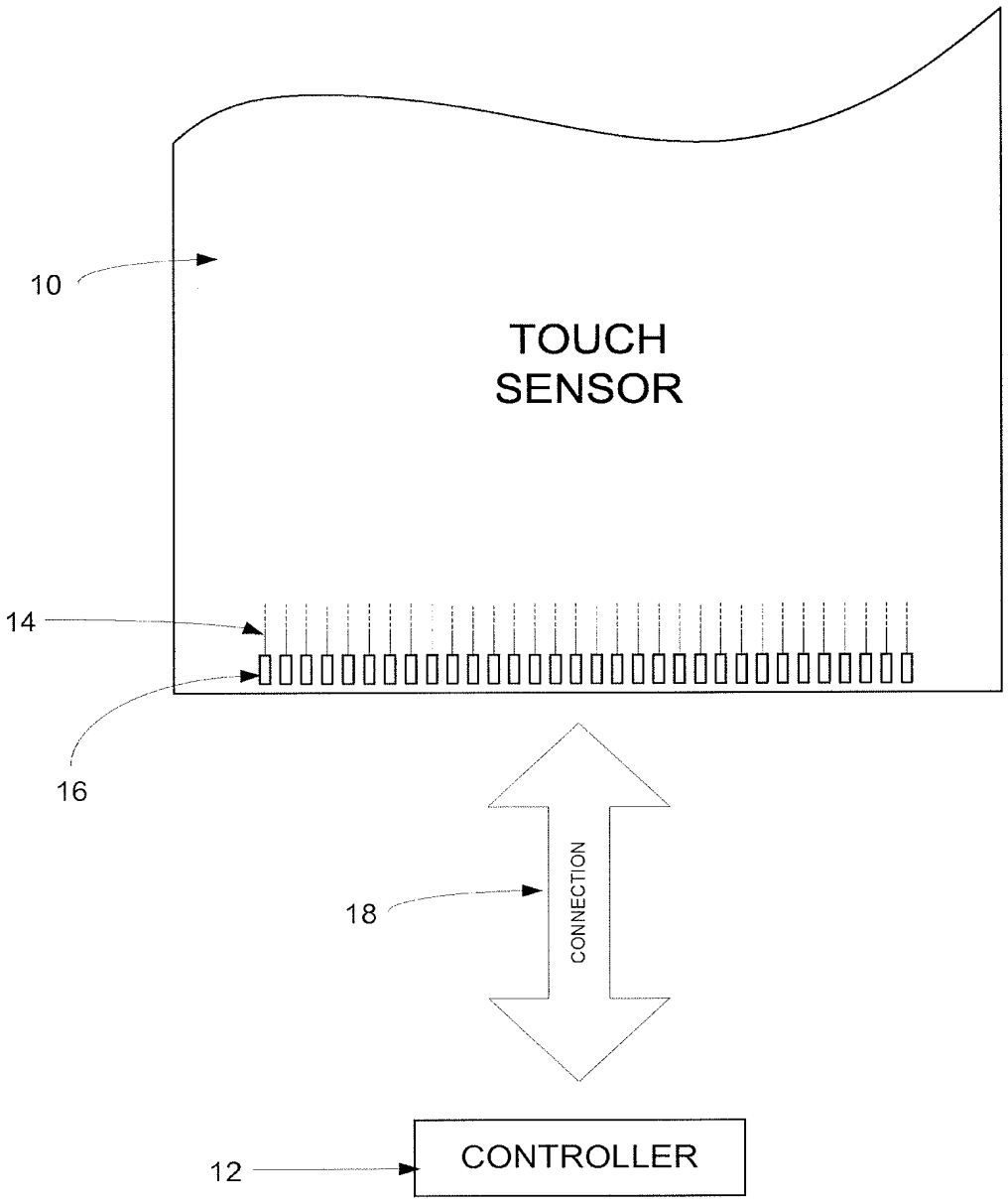


Figure 1

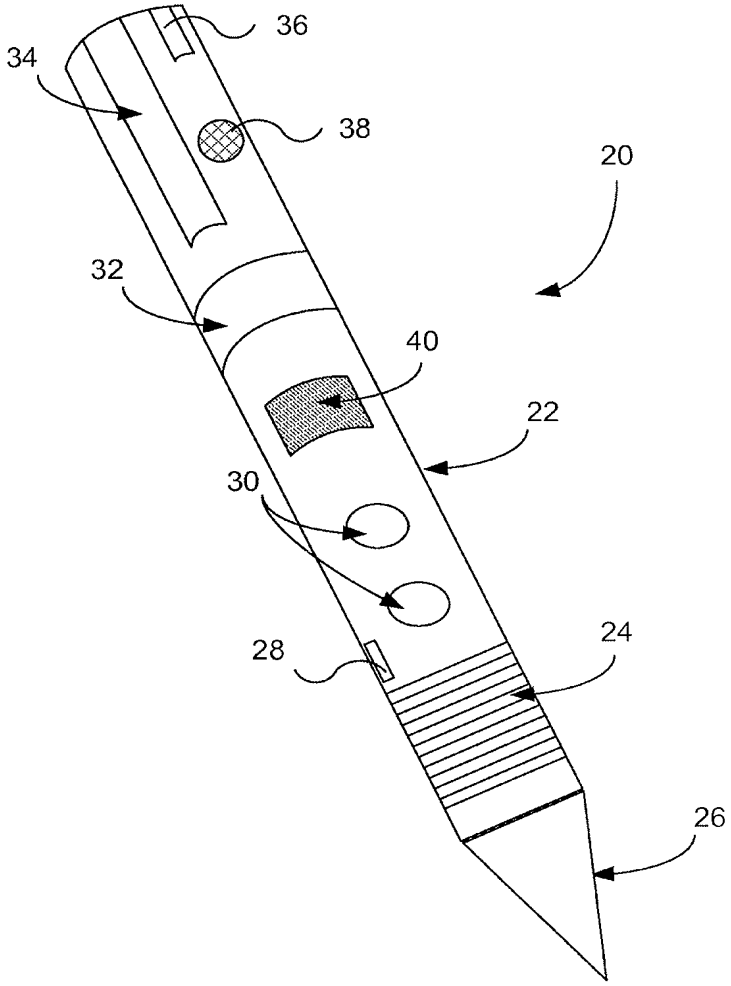


Figure 2

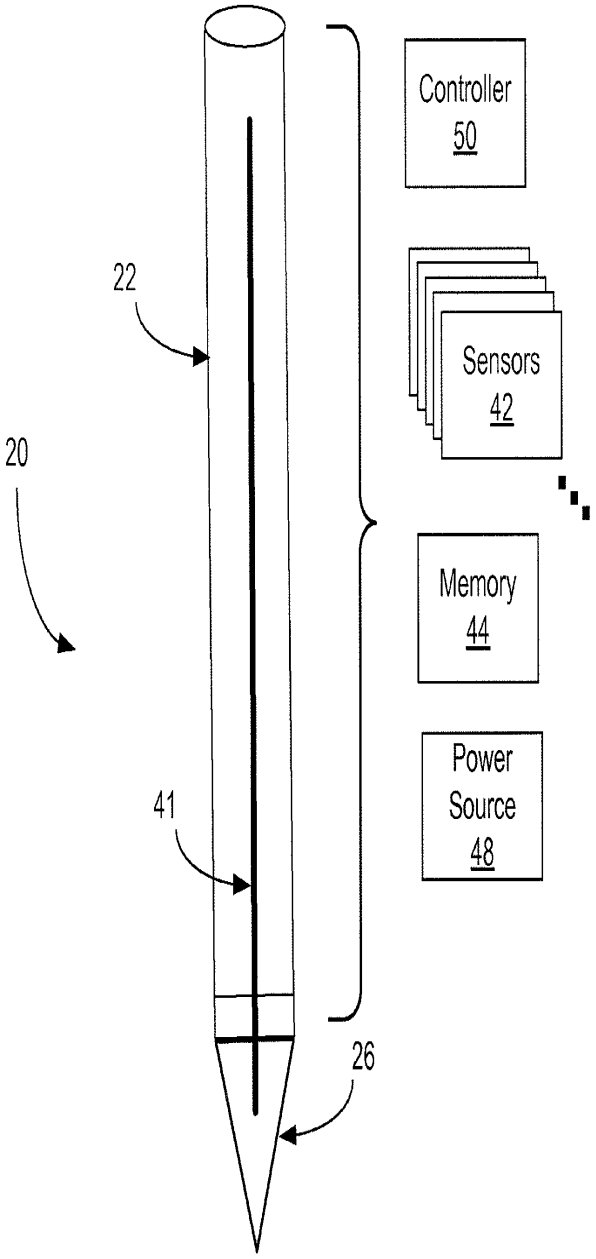


Figure 3

080900.1318; 11000QRG-34

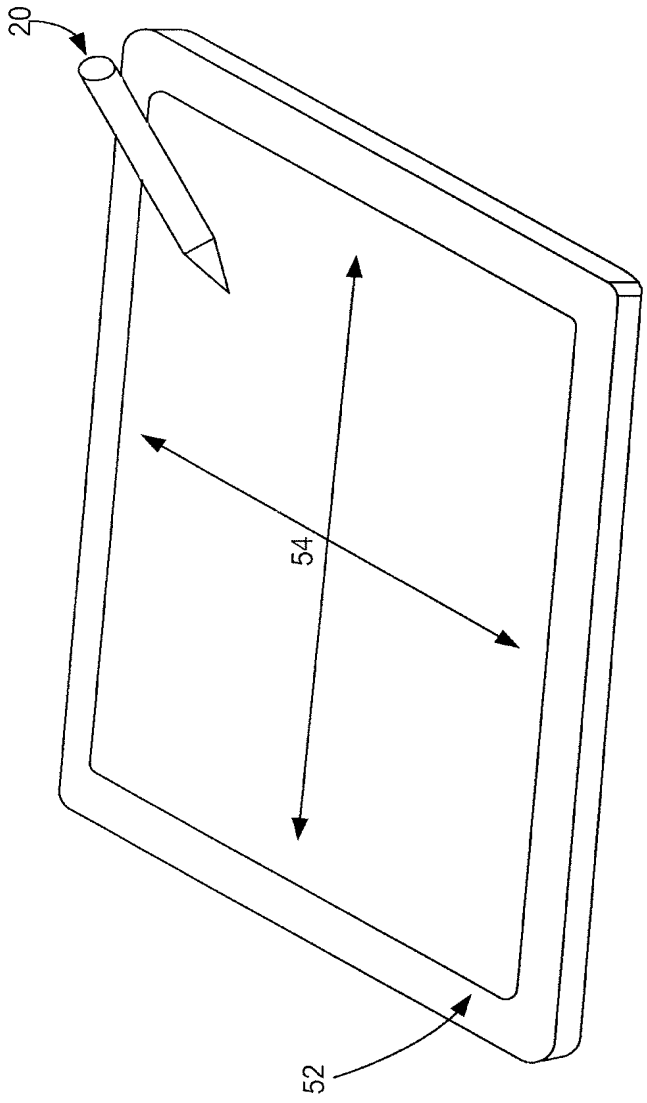
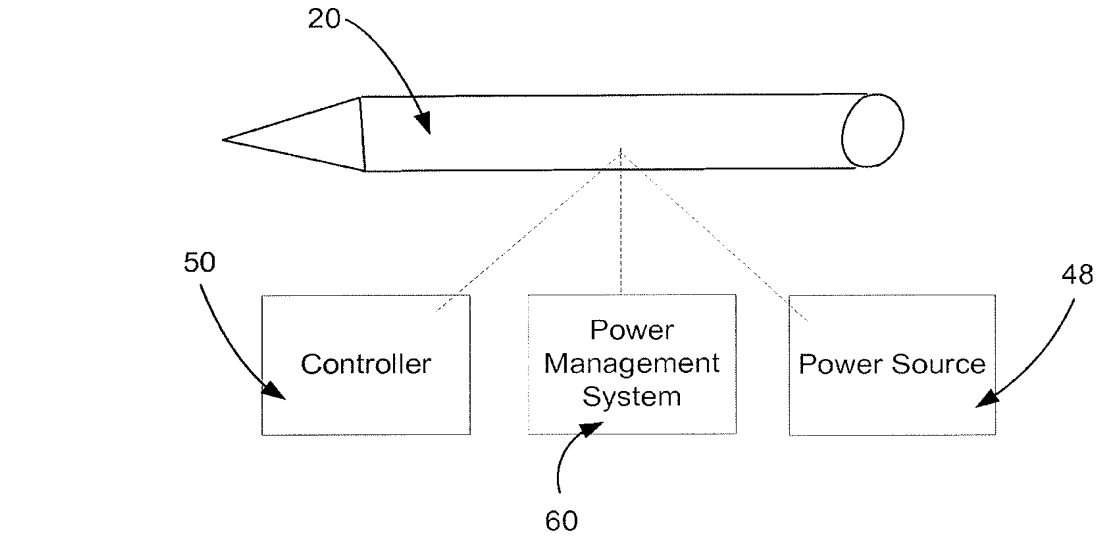


Figure 4


20
50
Controller
Power Management System
Power Source
48
60

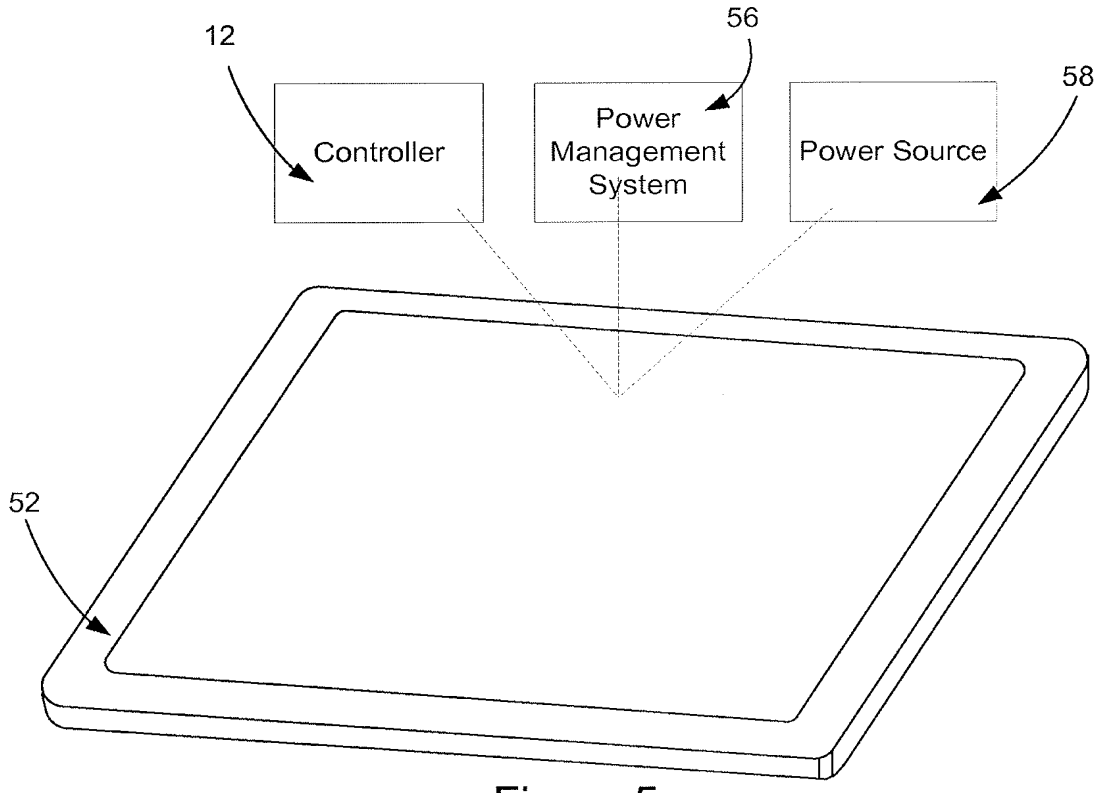

12
Controller
56
Power Management System
Power Source
58
52

Figure 5

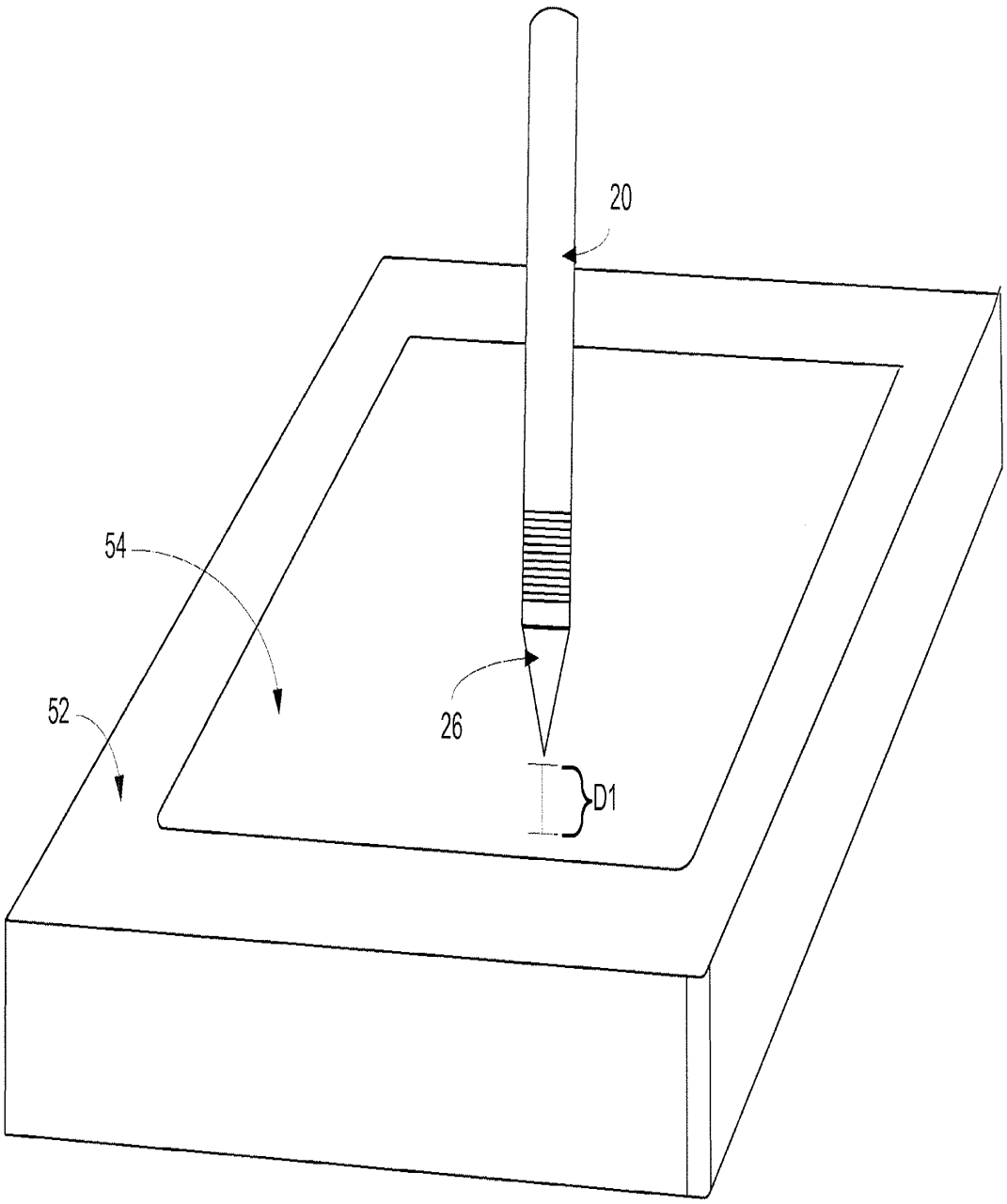


Figure 6A

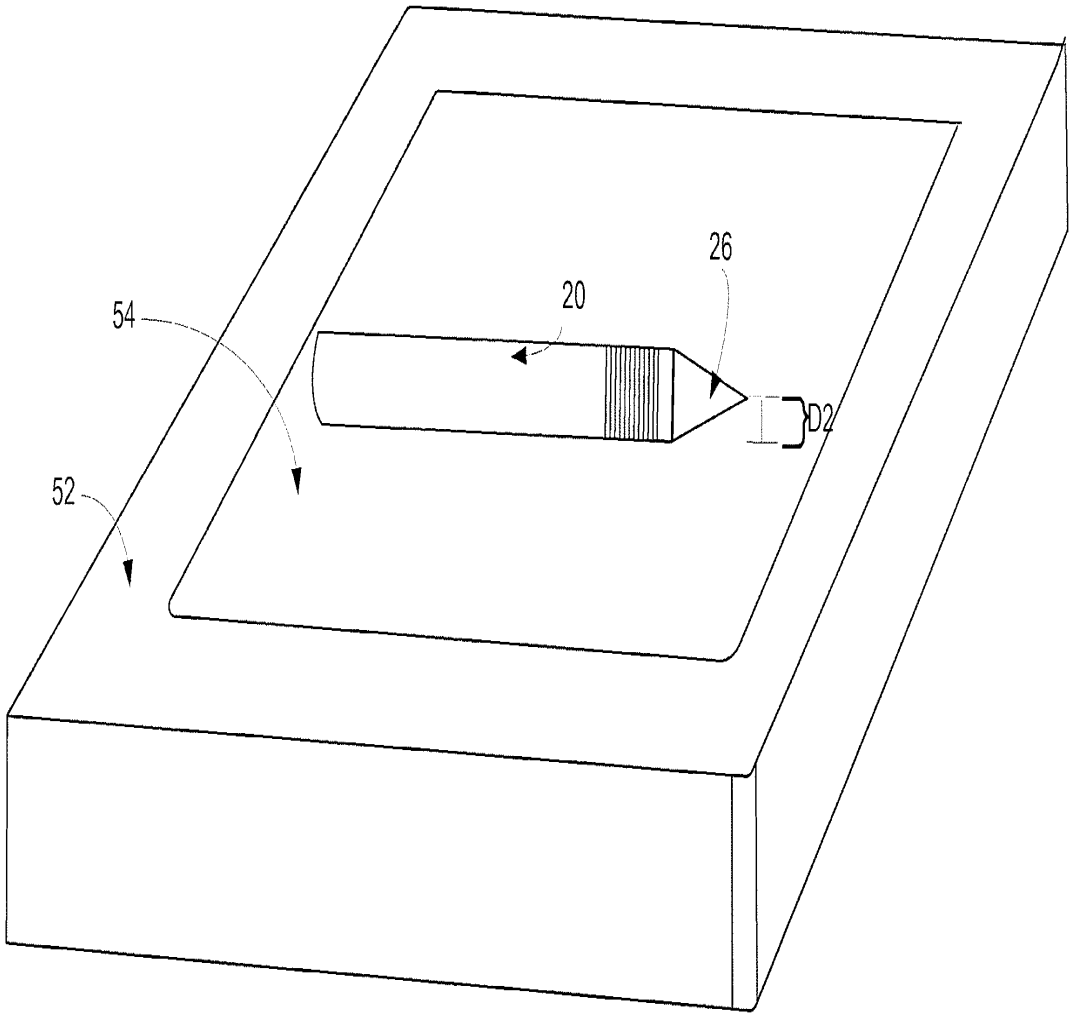
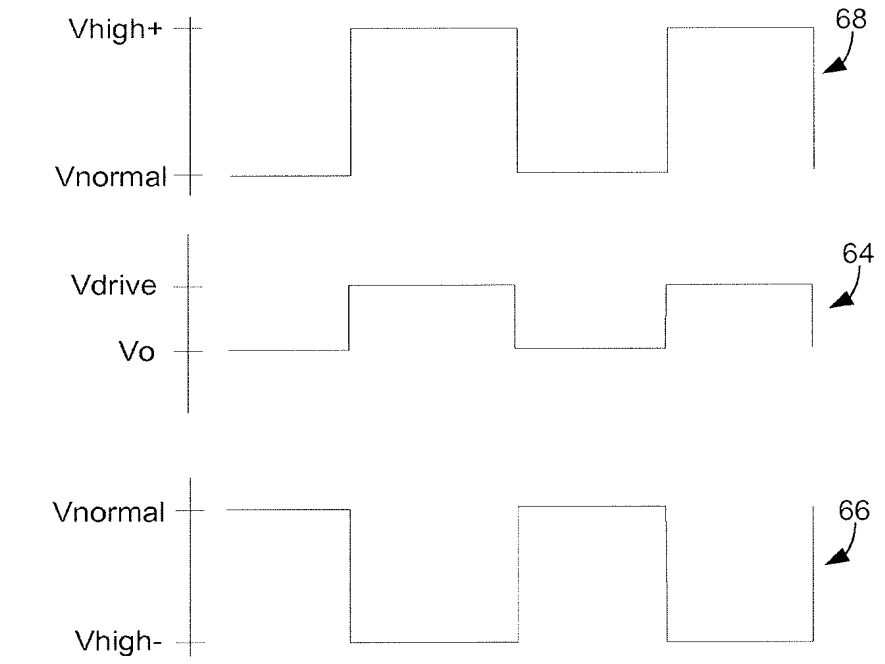


Figure 6B



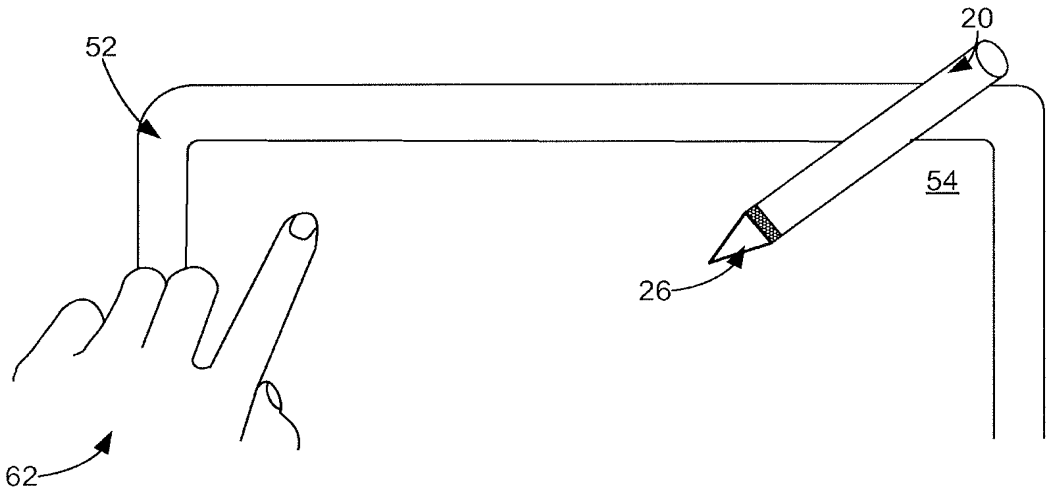


Figure 7

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/516,845	Filing Date 10/17/2014	☐ To be Mailed

ENTITY: ☒ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

	(Column 1)	(Column 2)		
FOR	NUMBER FILED	NUMBER EXTRA	RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X $ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X $ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

		(Column 1)		(Column 2)	(Column 3)		
	10/17/2014	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $80 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $420 =	0
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	**0**

		(Column 1)		(Column 2)	(Column 3)		
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X $ =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X $ =	
	☐ Application Size Fee (37 CFR 1.16(s))						
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))						
						TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/STELLA LITTLE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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