



15992 U.S. PTO

THE COMMISSIONER OF PATENTS AND TRADEMARKS
WASHINGTON, D.C. 20231

Sir:

CUSTOMER NUMBER: 38327

ATTORNEY DOCKET NUMBER: CHIP.0035

U.S. PTO
12/153350
05/16/2008

Transmitted herewith for filing is the Utility patent application of:

INVENTOR: **CHUNG-HSIEN HSIN, CHUN-HUA CHUANG, CHEN-PIN PENG, CHIEN-WEI CHANG AND CHIEN-HEN LIN**

FOR: **IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF**

Enclosed are:

- ☒ Assignment of application to Kingpak Technology Inc.
- ☒ An Executed Declaration.
- ☒ 5 sheets of ☐ formal ☐ informal drawings.

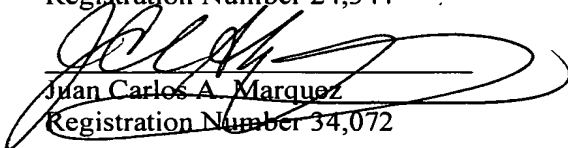
The filing fee is calculated as shown below:

FOR	NUMBER FILED		NUMBER EXTRA	RATE	CALCULATIONS
TOTAL CLAIMS	26	-20	6	x\$50 =	300.00
INDEPENDENT CLAIMS	2	-3		x\$210 =	0.00
MULTIPLE DEPENDENT CLAIM(S) (if applicable)				+\$370 =	
APPLICATION SIZE (18 PAGES)	SETS OF 50 SHEETS IN EXCESS OF 100 SHEETS =			x\$260 =	0.00
			BASIC FILING FEE		\$310.00
			SEARCH FEE		\$510.00
			EXAMINATION FEE		\$210.00
			TOTAL OF ABOVE		1,330.00
REDUCTION FOR FILING BY SMALL ENTITY (Note 37 C.F.R. §§ 1.9, 1.27, 1.28).				x 50% =	.00
				TOTAL	1,330.00

- ☒ A check in the amount of **\$1,370.00** to cover the filing fee and Assignment Recordation fee is enclosed.
- ☒ The Commissioner is hereby authorized to charge any additional fees associated with this communication, including patent application filing fees and processing fees under 37 C.F.R. § 1.16 and 1.17, or credit any overpayment to **Deposit Account Number 08-1480**.

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344


Juan Carlos A. Marquez
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(703) 641-4200
May 16, 2008

Application for
UNITED STATES LETTERS PATENT

Of

CHUNG-HSIEN HSIN

CHUN-HUA CHUANG

CHEN-PIN PENG

CHIEN-WEI CHANG

AND

CHIEN-HEN LIN

IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF



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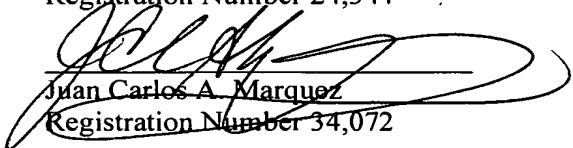
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IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF

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BACKGROUND OF THE INVENTION

[0001] 1. Technical Field

[0002] The present invention relates to an image sensor structure and an integrated lens module thereof. More particularly, the present invention relates to an image sensor structure and an integrated lens module thereof wherein the integrated lens module facilitates simplifying a manufacturing process of the image sensor structure.

[0003] 2. Description of Related Art

[0004] With the development and popularization of various digital image products, a market demand for image sensor modules for being applied to these digital image products, such as digital cameras, camera phones, video phones, fingerprint readers, and so on, have been gradually increased. For economically satisfying the demands from low-end digital image products that require less in image sensing sensitivity, it is necessary to simplify a manufacturing process of image sensors so as to reduce a manufacturing cost of image sensors.

[0005] Fig. 1 is a sectional view of a conventional image sensor structure 10. Therein, the conventional image sensor structure 10 comprises a substrate 11, a chip 12, a lens seat 13, and a lens barrel 14. The substrate 11 has a plurality of metal wires 111 and a plurality of metal balls 112, wherein the metal wires 111 are electrically connected to the metal balls 112. The chip 12 is settled on the substrate 11 and includes a light-sensing element 121 thereon. Moreover, the chip 12 is electrically connected to the metal wires 111 on the substrate 11 by means of wire-bonding. The lens seat 13 is formed with an inner threaded portion 131 and is settled on the

substrate 11 so that a closed space 15 is defined between the lens seat 13 and the substrate 11 for accommodating the chip 12. Besides, the lens barrel 14, having an outer threaded portion 142 that fittingly engages with the inner threaded portion 131 of the lens seat 13, is combined therein with at least one lens 141.

[0006] Thereby, when light passes through the lens 141 and reaches the light-sensing element 121 on the chip 12, the light-sensing element 121, in response to the light, converts the light into an electrical signal. At this time, since the chip 12 is electrically connected to the metal wires 111 on the substrate 11 by means of wire-bonding while the metal wires 111 are electrically connected to the metal balls 112 that can be further electrically connected to an external circuit (not shown), a channel for transmitting the electrical signal generated by the light-sensing element 121 is formed. Besides, for better focusing the light on the light-sensing element 121 on the chip 12, the lens barrel 14 may be rotated to have its vertical position adjusted and in turn achieve a more desirable image focal distance between the lens 141 and the chip 12 so as to enhance an imaging effect of the image sensor structure 10.

[0007] In a practical manufacturing process of the image sensor structure 10, a relative distance between the lens barrel 14 and the lens 141 has to be set in each said image sensor structure 10, respectively and then the imaging effect of each said image sensor structure 10 has to be checked respectively. Consequently, the complexity of the conventional manufacturing process can significantly reduce a production yield yet increase a manufacturing cost of the image sensor structure 10. Thus, the image sensor structure 10 inherently fails to meet an economic requirement of low-end digital image products. In addition, while the wire-bonding takes up a substantial area in the closed space 15 defined between the lens seat 13 and the substrate 11, an overall size of the packaged image sensor structure 10 can not be significantly reduced and thus the image sensor structure 10 is unfit for the modern

digital image products tending towards miniaturization.

SUMMARY OF THE INVENTION

[0008] The present invention provides an image sensor structure and an integrated lens module thereof. By using the integrated lens module to assemble the image sensor structure, a procedure for setting a relative distance between a lens and a chip can be simplified, so that a manufacturing process of the image sensor structure can be consequently simplified. Besides, the integrated lens module also facilitates reducing elements required in the image sensor structure and thereby decreasing a manufacturing cost of the image sensor structure. Moreover, by implementing the chip having a conducting channel, which can be electrically connected to an external circuit without the means of wire-bonding, the packaged image sensor structure 10 can be downsized.

[0009] To achieve the above ends, the disclosed image sensor structure with the integrated lens module comprises a chip having a plurality of light-sensing elements arranged on a light-sensing area of a first surface of the chip, a plurality of first conducting pads electrically connected to the light-sensing elements, and at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end, and a lens module comprising a holder having a through hole and a contact surface on a bottom of the holder, wherein the contact surface is combined with the first surface; and at least one lens embedded in the through hole and integrated with the holder.

[0010] To achieve the above ends, the disclosed integrated lens module comprises a holder having a through hole, and at least one lens embedded in the through hole and integrated with the holder.

[0011] By implementing the present invention, at least the following

progressive effects are expected to be achieved:

- [0012] 1. A manufacturing process of an image sensor can be simplified;
- [0013] 2. A manufacturing cost of an image sensor can be decreased; and
- [0014] 3. An overall volume of a packaged image sensor can be reduced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The invention as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

[0016] Fig. 1 is a sectional view of a conventional image sensor structure;

[0017] Fig. 2 is a schematic drawing illustrating an image sensor structure with an integrated lens module according to a first embodiment of the present invention;

[0018] Fig. 3 is a cross-sectional view of the image sensor structure with the integrated lens module according to the first embodiment of the present invention;

[0019] Fig. 4 is a schematic drawing illustrating an image sensor structure with an integrated lens module according to a second embodiment of the present invention; and

[0020] Fig. 5 is a cross-sectional view of the image sensor structure with the integrated lens module according to the second embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0021] As shown in Fig. 2, the image sensor structure 20 with the integrated lens module comprises a chip 30 and a lens module 40.

[0022] The chip 30 may be a complementary metal oxide semiconductor (CMOS) image sensor chip. As shown in Fig. 3, the chip 30 has a plurality of

light-sensing elements 31, a plurality of first conducting pads 32, and at least one conducting channel 33.

[0023] The light-sensing elements 31 are arranged on a light-sensing area of a first surface 34, namely a top surface, of the chip 30 and serve to sense light entering the image sensor structure 20. Then the light-sensing element 31, in response to the light, converts the light into an electrical signal. The first conducting pads 32 are electrically connected to the light-sensing elements 31 and arranged around the light-sensing area of the chip 30. The conducting channel 33 passes through the chip 30 so that one end thereof reveals at a second surface 35 of the chip 30, namely a bottom surface of the chip 30, while an opposite end thereof is electrically connected to the first conducting pad 32.

[0024] Since one said end of the conducting channel 33 reveals at the second surface 35 of the chip 30 and the other said end is electrically connected to the first conducting pad 32 that is electrically connected to the light-sensing elements 31, an electrical signal converted by the light-sensing elements 31 is allowed to be electrically connected to an external circuit (not shown) through the first conducting pad 32 and the conducting channel 33. That is to say, no space for wire-bonding is required on the chip 30 so that an overall volume of the packaged image sensor structure 20 can be effectively reduced.

[0025] To achieve an electrical connection between the chip 30 and the external circuit, the chip 30 may further comprise a plurality of second conducting pads (not shown). The second conducting pads may be known metal conducting pins. Alternatively, as shown in Fig. 3, the chip 30 may further comprise a plurality of conducting balls 36 which can be arranged into a ball grid array (BGA) and settled on the second surface 35 of the chip 30 while being electrically connected to the conducting channel 33 at one said end thereof revealing on the second surface 35 of

the chip 30. The conducting balls 36 may be settled on the second surface 35 of the chip 30 through a conventional ball-mounting process so as to enhance a heat dissipating effect of the image sensor structure 20.

[0026] The lens module 40 comprises a holder 41 and at least one lens 42.

[0027] The holder 41 may be made of a plastic material or a metal material. The holder 41 has a through hole 411 that is settled at a center of the holder 41 and vertically passes through the entire holder 41. The holder 41 has a contact surface 412 on a bottom thereof for being combined with the first surface 34 of the chip 30 so that the lens module 40 can be directly combined with the first surface 34 of the chip 30, wherein the contact surface 412 may be combined with the first surface 34 of the chip 30 by an adhesive 43, such as an UV curable adhesive or a thermosetting adhesive.

[0028] Referring to Fig. 4, for achieving a better imaging effect of the image sensor structure 20, the lens 42 is desirably separated from the light-sensing elements 31 of the chip 30 for a proper distance. Thus, a cavity 413 may be formed at the holder 41.

[0029] As can be seen in Fig. 3, the lens 42 is embedded in the through hole 411 of the holder 41 and integrated with the holder 41. Preferably, the lens 42 is set at a predetermined position so that after the lens module 40 is assembled to the first surface 34 of the chip 30, the lens 42 allows the light entering the image sensor structure 20 to be approximately focused on the light-sensing elements 31 of the chip 30. By integrating the lens 42 and the holder 41, a manufacturing process of the image sensor structure 20 can be simplified and a manufacturing cost of the image sensor structure 20 can be reduced.

[0030] According to Fig. 3, the lens 42 may be a glass lens 421. For enhancing an image effect of the lens module 40, the glass lens 421 may be coated with an IR cut filtering layer 422 for filtering infrared rays so as to allow the image sensor

structure 20 to sense images with improved accuracy.

[0031] Referring to Fig. 5, for lowering the manufacturing cost of the lens module 40, the lens 42 may be a plastic lens 423. Moreover, for enhancing the imaging effect of the lens module 40, an IR cut filter glass 424 may be further embedded in the through hole 411 of the holder 41 and arranged below the plastic lens 423 for filtering infrared rays.

[0032] Alternatively, the lens 42 may comprise both a glass lens 421 and a plastic lens 423. Generally, the glass lens 421 is, but not limited to be, arranged below the plastic glass 423. Similarly, for enhancing the imaging effect of the lens module 40, the glass lens 421 may be also coated with the IR cut filtering layer 422 or the IR cut filter glass 424 may be further embedded in the through hole 411 of the holder 41 and arranged below the plastic lens 423 for filtering infrared rays.

[0033] Although the particular embodiments of the invention have been described in detail for purposes of illustration, it will be understood by one of ordinary skill in the art that numerous variations will be possible to the disclosed embodiments without going outside the scope of the invention as disclosed in the claims.

What is claimed is:

1. An image sensor structure with an integrated lens module, comprising :

a chip having a plurality of light-sensing elements arranged on a light-sensing area of a first surface of the chip, a plurality of first conducting pads electrically connected to the light-sensing elements, and at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end; and

a lens module comprising a holder having a through hole and a contact surface on a bottom of the holder, wherein the contact surface is combined with the first surface, and at least one lens embedded in the through hole and integrated with the holder.
2. The image sensor structure as claimed in Claim 1, wherein the chip is a complementary metal oxide semiconductor (CMOS) image sensor chip.
3. The image sensor structure as claimed in Claim 1, wherein the chip further comprises a plurality of second conducting pads or balls which are arranged on a second surface of the chip and electrically connected to the conducting channel.
4. The image sensor structure as claimed in Claim 1, wherein the chip further comprises a ball grid array which is arranged on a second surface of the chip and electrically connected to the conducting channel.
5. The image sensor structure as claimed in Claim 1, wherein the first conducting pads are arranged around the light-sensing area.

6. The integrated lens module as claimed in Claim 1, wherein a cavity is formed at the bottom of the holder.
7. The image sensor structure as claimed in Claim 1, wherein the holder is made of a plastic material or a metal material.
8. The image sensor structure as claimed in Claim 1, wherein the contact surface is combined with the first surface by an adhesive.
9. The image sensor structure as claimed in Claim 1, wherein the contact surface is combined with the first surface by an UV curable adhesive.
10. The image sensor structure as claimed in Claim 1, wherein the lens is a plastic lens.
11. The image sensor structure as claimed in Claim 10, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.
12. The image sensor structure as claimed in Claim 1, wherein the lens is a glass lens.
13. The image sensor structure as claimed in Claim 12, wherein the glass lens is coated with an IR cut filtering layer.

14. The image sensor structure as claimed in Claim 1, wherein the lens comprises a glass lens and a plastic lens, wherein the glass lens is arranged below the plastic glass.
15. The image sensor structure as claimed in Claim 14, wherein the glass lens is coated with an IR cut filtering layer.
16. The image sensor structure as claimed in Claim 14, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.
17. An integrated lens module, comprising:
 - a holder having a through hole; and
 - at least one lens embedded in the through hole and integrated with the holder.
18. The integrated lens module as claimed in Claim 17, wherein a cavity is formed at a bottom of the holder.
19. The integrated lens module as claimed in Claim 17, wherein the holder is made of a plastic material or a metal material.
20. The integrated lens module as claimed in Claim 17, wherein the lens is a plastic lens.

21. The integrated lens module as claimed in Claim 20, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.
22. The integrated lens module as claimed in Claim 17, wherein the lens is a glass lens.
23. The integrated lens module as claimed in Claim 22, wherein the glass lens is coated with an IR cut filtering layer.
24. The integrated lens module as claimed in Claim 17, wherein the lens comprises a glass lens and a plastic lens, wherein the glass lens is arranged below the plastic glass.
25. The integrated lens module as claimed in Claim 24, wherein the glass lens is coated with an IR cut filtering layer.
26. The integrated lens module as claimed in Claim 24, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.

ABSTRACT

An image sensor structure and an integrated lens module thereof are provided. In the image sensor structure with the integrated lens module, the image sensor structure comprises a chip and a lens module. The chip has light-sensing elements, first conducting pads, and a conducting channel. The light-sensing elements are electrically connected to the first conducting pads and the first conducting pads are electrically connected to one end of the conducting channel passing through the chip. The lens module comprises a holder and at least one lens. The holder has a through hole and the lens is embedded in the through hole and integrated with the holder. By using the integrated lens and holder, a manufacturing process of the image sensor structure is simplified and a manufacturing cost of the image sensor structure is reduced.

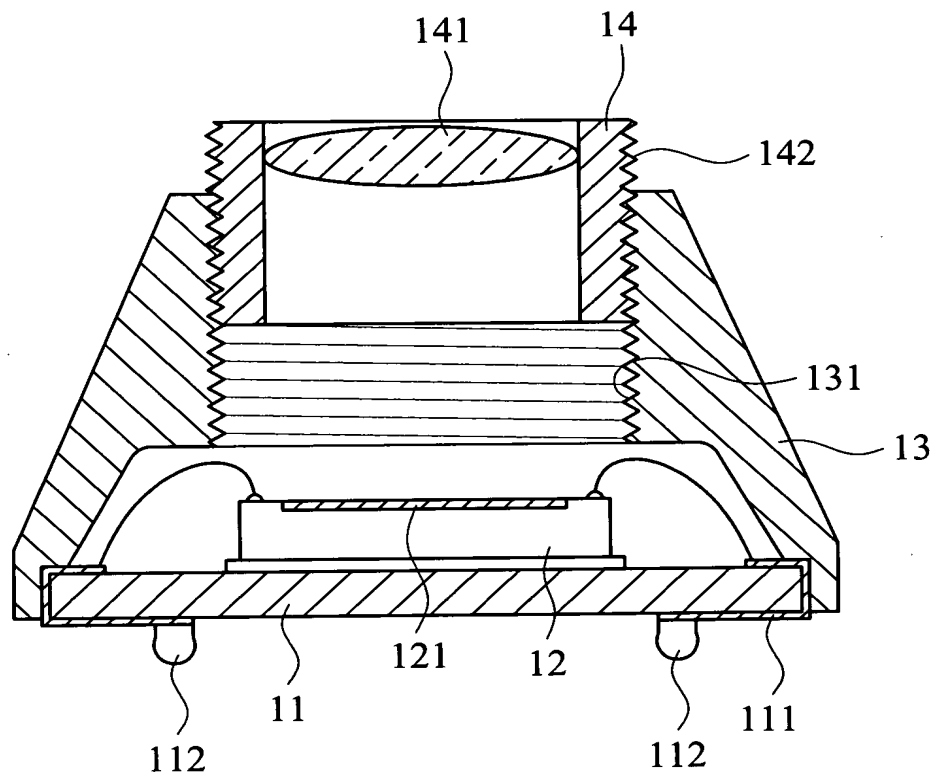


FIG. 1

20

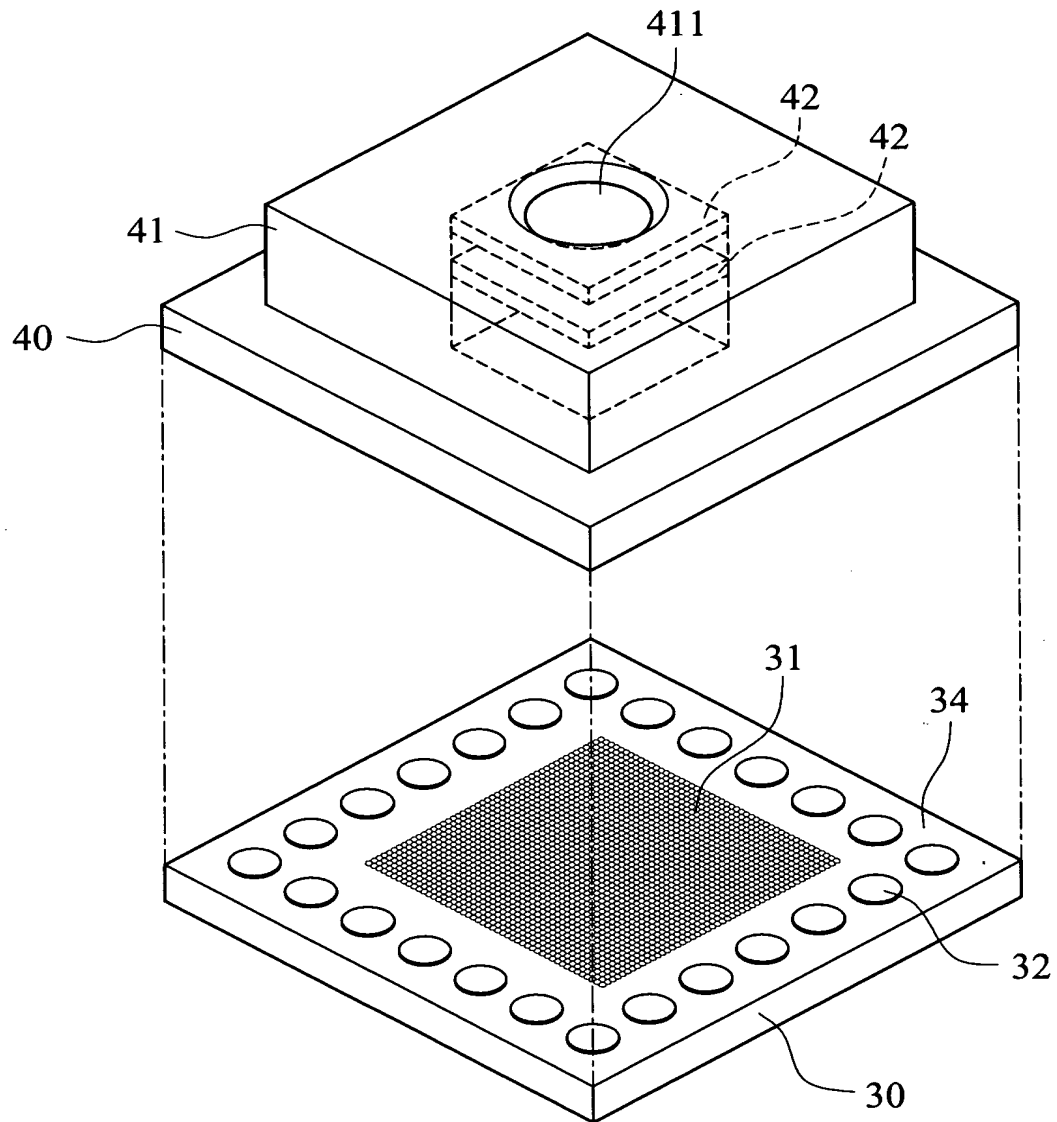


FIG. 2

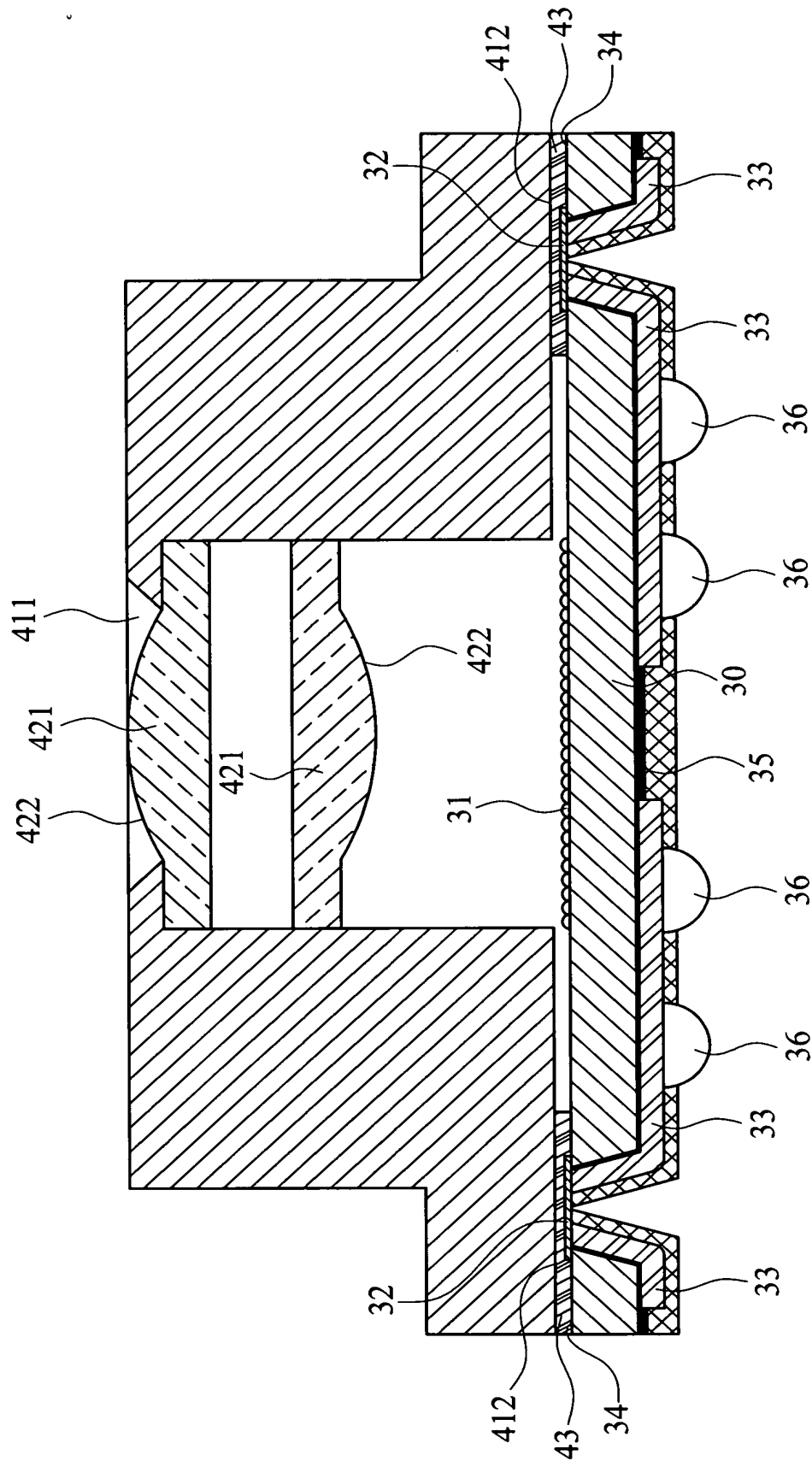


FIG. 3

20

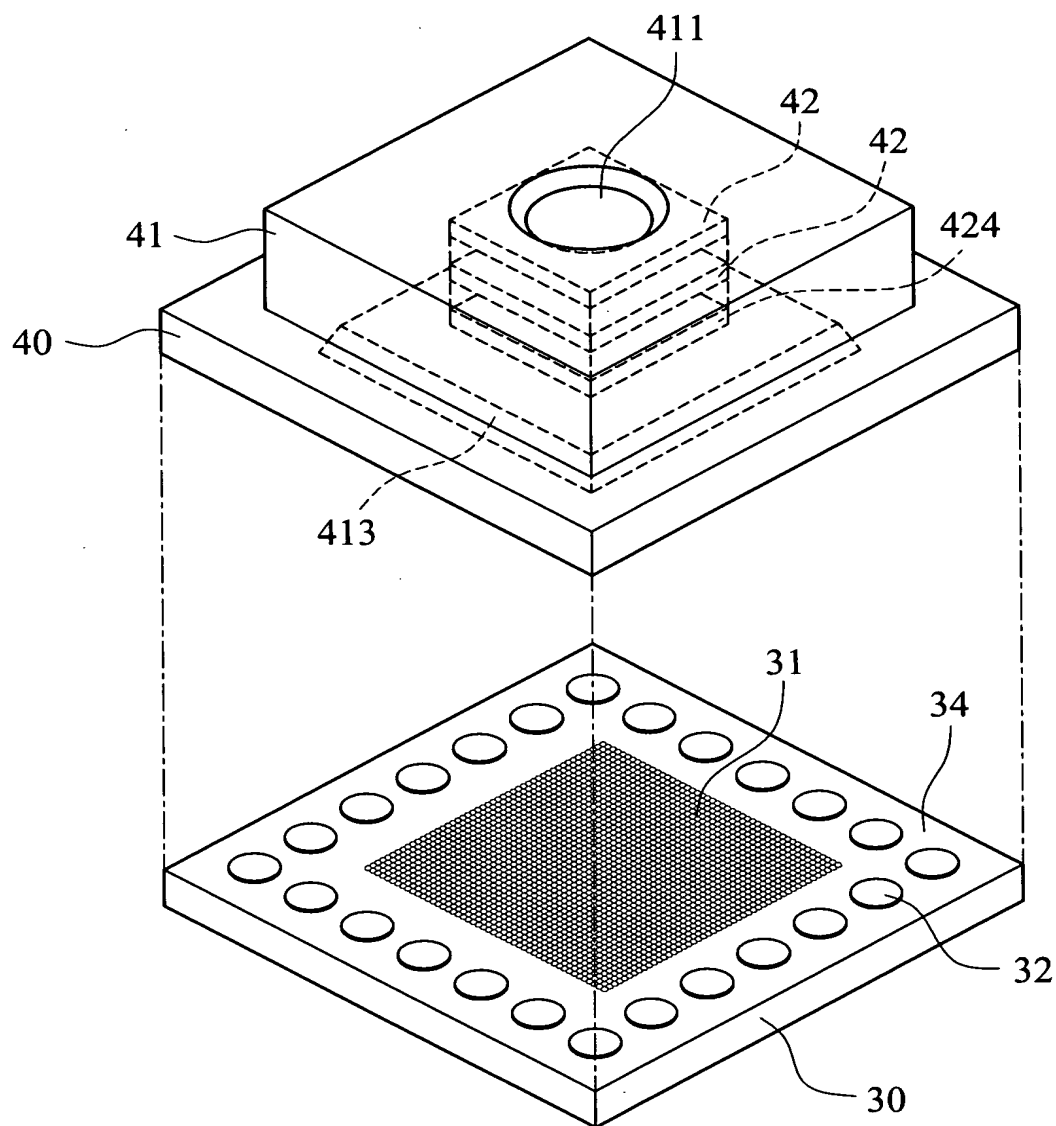


FIG. 4

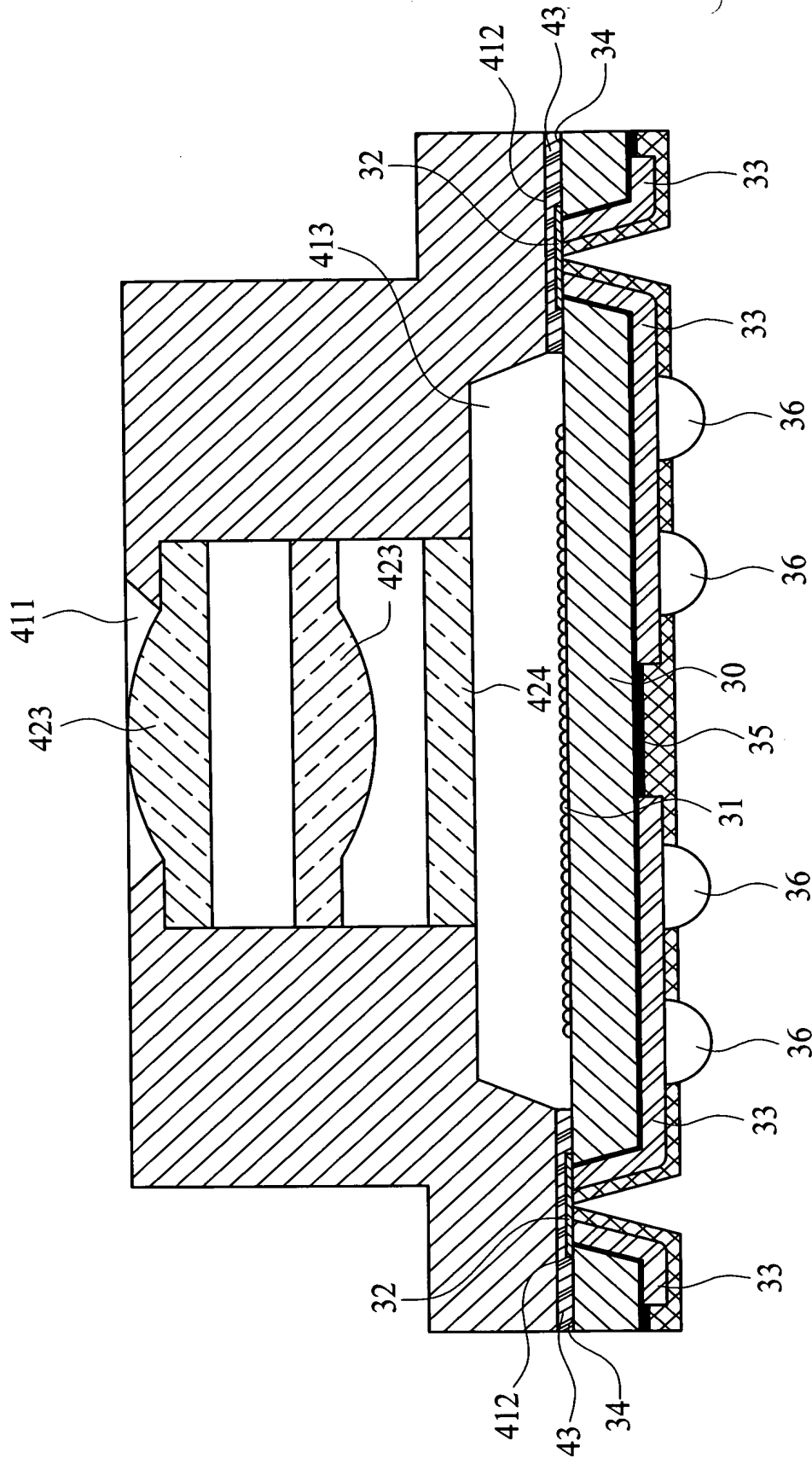


FIG. 5

200

97200
097US7293

ATTORNEY DOCKET NO:

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

As a below-named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled **IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF**, the specification of which (check one):

- ☐ is attached hereto.
- ☐ was filed on _____ as Application Serial No. _____, and was amended on _____ (if applicable).
- ☐ was filed on _____ as International Application (PCT) No. _____, and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with *Title 37, Code of Federal Regulations, § 1.56(a)*. I hereby claim foreign priority benefits under *Title 35, United States Code § 119* of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which the priority is claimed.

PRIOR FOREIGN APPLICATION(S)

NUMBER	COUNTRY	DAY/MONTH/YEAR FILED	PRIORITY CLAIMED
			☐ Yes ☐ No
			☐ Yes ☐ No

I hereby claim the benefit under *Title 35, United States Code, § 120* of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of *Title 35, United States Code, § 112*, I acknowledge the duty to disclose material information as defined in *Title 37, Code of Federal Regulations, § 1.56(a)* which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:

APPLICATION NUMBER	FILING DATE	STATUS (Patented, Pending or Abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under *Section 1001 of Title 18 of the United States Code*, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: Stanley P. Fisher, Registration Number 24,344; Juan Carlos Marquez, Registration Number 34,072.

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DATE 5/12/08		SIGNATURE 	

ATTORNEY DOCKET NO.:

DECLARATION FOR PATENT APPLICATION AND APPOINTMENT OF ATTORNEY

Page 2

✓ See following pages for additional joint inventors.

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State or Country Taiwan (R.O.C.)	State or Country Taiwan
Zip 31442	Zip
DATE 5/12/2008	SIGNATURE Peng Chen Pin
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City Sinpu Township, Hsinchu County 30541	City Taipei
State or Country Taiwan (R.O.C.)	State or Country Taiwan
Zip 30541	Zip
DATE 5/12/08	SIGNATURE Chien-Wei Chang
Full Name of Fifth Inventor Chien-Hen Lin	Citizenship Republic of China
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City Yangmei Township, Taoyuan County	City Taipei
State or Country Taiwan (R.O.C.)	State or Country Taiwan
Zip 32654	Zip
DATE 5/12/2008	SIGNATURE Chien-Hen Lin

ATTORNEY DOCKET NO.:

PATENT APPLICATION SERIAL NO. _____

**U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET**

05/19/2000 SZEWDIE1 00000057 12153350

01 FC:1011	310.00 OP
02 FC:1111	510.00 OP
03 FC:1311	210.00 OP
04 FC:1202	300.00 OP

PTO-1556
(5/87)

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number

12153350

APPLICATION AS FILED - PART I

(Column 1)

(Column 2)

SMALL ENTITY

OR

OTHER THAN
SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.18(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.18(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.18(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(i))	26 minus 20 =	6
INDEPENDENT CLAIMS (37 CFR 1.16(h))	2 minus 3 =	—
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$260 (\$130 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))		

RATE (\$)	FEE (\$)
N/A	\$155
N/A	\$255
N/A	\$105
X \$25 =	
X \$105 =	
\$130	
\$185	
TOTAL	

OR

RATE (\$)	FEE (\$)
N/A	\$310
N/A	\$510
N/A	\$210
X \$50 =	300
X \$210 =	
\$260	
\$370	
TOTAL	1330

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

(Column 1)

(Column 2)

(Column 3)

SMALL ENTITY

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OTHER THAN
SMALL ENTITY

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X \$25 =	
X \$105 =	
\$185	
TOTAL ADD'L FEE	

OR

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AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total (37 CFR 1.16(i))	*	Minus **	=
Independent (37 CFR 1.16(h))	*	Minus ***	=
Application Size Fee (37 CFR 1.16(s))			
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))			

RATE (\$)	ADDITIONAL FEE (\$)
X \$25 =	
X \$105 =	
\$185	
TOTAL ADD'L FEE	

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* 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.

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 NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
12/153,350	05/16/2008	2862	1330	CHIP.0035	26	2

CONFIRMATION NO. 5843

REED SMITH LLP
Suite 1400
3110 Fairview Park Drive
Falls Church, VA 22042

FILING RECEIPT



OC000000030224111

Date Mailed: 06/03/2008

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**

Applicant(s)

Chung-Hsien Hsin, Hsinchu City, TAIWAN;
Chun-Hua Chuang, Hukou Township, TAIWAN;
Chen-pin Peng, Beipu Township, TAIWAN;
Chien-Wei Chang, Sinpu Township, TAIWAN;
Chien-Hen Lin, Yangmei Township, TAIWAN;

Assignment For Published Patent Application

Kingpak Technology Inc.

Power of Attorney:

Stanley Fisher--24344
Juan Carlos Marquez--34072

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted: 05/30/2008

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 12/153,350**

Projected Publication Date: 11/19/2009

Non-Publication Request: No

Early Publication Request: No

Title

Image sensor structure and integrated lens module thereof

Preliminary Class

396

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 (1-866-999-4158).

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APPLICATION NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/153,350		2622	2622



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 38327 on 06/30/2009

- Correspondence Address
- Maintenance Fee Address
- Power of Attorney Address

The address of record for Customer Number 38327 is:

38327

Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
12/153,350	05/16/2008	Chung-Hsien Hsin	CHIP.0035

CONFIRMATION NO. 5843

PUBLICATION NOTICE



OC000000038858100

38327

Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437

Title:Image sensor structure and integrated lens module thereof

Publication No.US-2009-0283809-A1

Publication Date:11/19/2009

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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/153,350	05/16/2008	Chung-Hsien Hsin	CHIP-0035	5843

38327 7590 12/28/2010

Juan Carlos A. Marquez
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Alexandria, VA 22314-1437

EXAMINER

COWAN, EUEL K

ART UNIT	PAPER NUMBER
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2622

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

12/28/2010

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):

iplaw@stites.com

Office Action Summary	Application No. 12/153,350	Applicant(s) HSIN ET AL.	
	Examiner EUEL K. COWAN	Art Unit 2622	

-- 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 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 16 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ 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

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 May 2008 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).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

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).
- a) ☐ All b) ☐ Some * c) ☐ None of:
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) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 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 negated by the manner in which the invention was made.

3. Claims 1-6, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, Pub. No. 2008/0191335 in view of Shangguan, Pub. No. US 2006/0132644.

Regarding claim 1, Yang discloses an image sensor structure with an integrated lens module, comprising: a chip (fig. 1 part16, paragraph 26 CIS chip) having a plurality

Art Unit: 2622

of light-sensing elements arranged on a light-sensing area of a first surface of the chip (light sensing area is under the protection layer 40, paragraph 22 which is on the top surface of the chip), a plurality of first conducting pads (fig. 2 part 20, paragraph 21) electrically connected to the light-sensing elements, and at least one conducting channel passing (through hole, fig. 1 part 6, paragraph 20) through the chip and electrically connected to the first conducting pads (fig. 1 part 8, terminal pads) at one end (non light receiving side of chip); and a lens module comprising a holder (fig. 5 part 126) having a through hole (hole where lens 128 is placed) and a contact surface on a bottom of the holder, (bottom of lens holder), and at least one lens embedded in the through hole and integrated with the holder (lens 128 in fig. 5 is imbedded in the through hole and integrate in that it is meant to be place permanently in its position as part of the lens holder).

Yang does not explicitly disclose that the contact surface is combined with the first surface. **Shangguan** however in the same art of camera module design teaches that the contact surface of the lens holder (fig. 15 part 306) is combined with the first surface (paragraph 65, lens holder is formed on the top surface of image sensing chip 302). Shangguan uses this design to avoid having to use a large amount of assembly parts in the attachment process. It would have been obvious to one of ordinary skill in the art to have modified Yang with the assembly of Shangguan so as to simplify the manufacturing process of the camera module.

Regarding claim 2, Yang discloses that the chip is a complementary metal oxide semiconductor (CMOS) image sensor chip (paragraph 20).

Regarding claim 3, Yang discloses that the chip further comprises a plurality of second conducting pads or balls (fig. 1 part 30) which are arranged on a second surface of the chip and electrically connected to the conducting channel (see fig 1, paragraph 24).

Regarding claim 4, Yang discloses that the chip further comprises a ball grid array which is arranged on a second surface of the chip and electrically connected to the conducting channel (see fig 1, paragraph 24).

Regarding claim 5, Yang discloses that the first conducting pads are arranged around the light-sensing area (fig. 3 part 20).

Regarding claim 6, Yang discloses that a cavity is formed at the bottom of the holder (fig. 5 shows the image sensing chip inside a cavity formed by the lens holder).

Claim 17 is a broad recitation of claim 1 and is therefore rejected for the same rationale.

Claim 18 recites similar limitations as claim 6 and is rejected for the same rationale.

4. Claims 7 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, Pub. No. 2008/0191335 in view of Shangguan, Pub. No. US 2006/0132644 in further view of Hunter, US Pat. No. 7088397.

Regarding claim 7, Yang-Shangguan does not explicitly teach that the holder is made of a plastic material or a metal material. **Hunter** however in the same art of camera module design teaches a lens being made of plastic or glass (col. 6 lines 8-12) to form a light-tight structure. It would have been obvious to one of ordinary skill in the art to have modified the Yang-Shangguan reference with the teaching of Hunter since it was well known in the art to have used either glass for it's better resistance to heat or plastic for it's better shock absorption qualities so as to provide a sturdy imaging module.

Claim 19 recites similar limitations as claim 7 and is rejected for the same rationale.

5. Claims 8, 10-12, 14, 20-22 & 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, Pub. No. 2008/0191335 in view of Shangguan, Pub. No. US 2006/0132644 in further view of Ellenberger, Pub. No. US 2007/0210246.

Regarding claim 8, the Yang-Shangguan reference teaches the invention as per claim 1 where Shangguan teaches the contact surface is combined with the first surface (paragraph 65, fig. 16). It does not explicitly teach that the contact surface is combined with the first surface by an adhesive. **Ellenberger** however in the same art of imaging teaches that the contact surface (bottom of lens holder in fig. 2 part 136) is combined with a first surface by an adhesive (fig. 2 part 138) to be able to form the image sensing module as one solid structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Yang-Shangguan reference with the adhesive of Ellenberger so that the camera module would be rigidly formed.

Regarding claims **10 and 12**, the Yang-Shangguan reference does not explicitly teach the lens being made of glass or plastic. **Ellenberger** however in the same art of camera module design teaches a lens being made of plastic or glass (col. 6 lines 8-12) to form a light-tight structure. It would have been obvious to one of ordinary skill in the art to have modified the Yang-Shangguan reference with the teaching of Ellenberger

Art Unit: 2622

since it was well known in the art to have used either glass for its better resistance to heat or plastic for its better shock absorption qualities so as to provide reliable components in the imager.

Regarding claim 11, Yang discloses that an IR cut filter glass (fig. 5 part 130, paragraph 31, TiO_2 is a type of glass) which is embedded in the through hole and arranged below the plastic lens (as shown in fig. 5).

Regarding claim 14, the Yang-Shangguan teaches the invention as per claim 1. It does not explicitly teach that the lens comprises a glass lens and a plastic lens, wherein the glass lens is arranged below the plastic glass. **Ellenberger** however, in the same art of image module design teaches the use of several lenses that can be made of either plastic or glass stacked together. Since there are a finite number of positions of arranging the lens by material, it would have been obvious to one of ordinary skill in the art to have selected to have the glass lens positioned below the plastic lens.

Claim 20 recites similar limitations as claim 10 and is rejected for the same rationale.

Claim 21 recites similar limitations as claim 11 and is rejected for the same rationale.

Claim 22 recites similar limitations as claim 12 and is rejected for the same rationale.

Claim 24 recites similar limitations as claim 14 and is rejected for the same rationale.

6. Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, Pub. No. 2008/0191335 in view of Shangguan, Pub. No. US 2006/0132644 in further view of Lee, Pub. No. 2007/0248355.

Regarding claim 9, the Yang-Shangguan reference teaches the invention as per claim 1 where Shangguan teaches the bottom of the lens holder (contact surface) is attached to the top of the image sensor chip (first surface). It does not explicitly teach that the contact surface is combined with the first surface by an UV curable adhesive. **Lee '355** however, in the same art of image sensor module design teaches that the contact surface is combined with the first surface by an UV curable adhesive (paragraph 25) as a means to obviate the defect of thermally curing adhesive running down the side of the substrate. Therefore it would have been obvious to one of ordinary skill in the art to have modified the Yang-Shangguan reference with the teaching of Lee '355 so as to neatly and cleanly join the two pieces together.

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7. Claims 13, 15, 16, 23, 25 & 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang, Pub. No. 2008/0191335 in view of Shangguan, Pub. No. US 2006/0132644 in further view of Ellenberger, Pub. No. US 2007/0210246 in further view of Lee, Pub. No. US 2007/0264002.

Regarding claim 13, the Yang-Shangguan-Ellenberger reference (abbr. YSE) does not explicitly teach that the glass lens is coated with an IR cut filtering layer. **Lee '002** however in the same art of image sensor module design, teaches a glass lens being coated with an IR cut filtering layer (paragraph 37) for blocking out infrared light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the YSE reference with the IR cut coating of Lee '002 so as to remove the effects of IR on the visible light image.

Claim 15 recites similar limitations as claim 13 and is rejected for the same rationale.

Regarding claim 16, the YSE in view of Lee reference teaches that image sensor structure as claimed in Claim 14, further comprises an IR cut filter glass (see claim 13) which is embedded in the through hole (taught by Yang) and arranged below the plastic lens (positioning of lens as taught by Ellenberger in claim 14).

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Claim 23 recites similar limitations as claim 13 and is rejected for the same rationale.

Claim 25 recites similar limitations as claim 15 and is rejected for the same rationale.

Claim 26 recites similar limitations as claim 16 and is rejected for the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUCL K. COWAN whose telephone number is (571)270-5093. The examiner can normally be reached on Mon. - Thur: 8am - 5pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571 272 7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

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.

/Lin Ye/
Supervisory Patent Examiner, Art
Unit 2622

/Euel K Cowan/
Examiner, Art Unit 2622

Notice of References Cited	Application/Control No. 12/153,350		Applicant(s)/Patent Under Reexamination HSIN ET AL.	
	Examiner EUEL K. COWAN		Art Unit 2622	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2008/0191335	08-2008	Yang et al.	257/680
*	B	US-2006/0132644	06-2006	Shangguan et al.	348/374
*	C	US-2007/0210246	09-2007	Ellenberger et al.	250/239
*	D	US-2007/0248355	10-2007	Lee, Jin Ho	396/529
*	E	US-2007/0264002	11-2007	LEE, JIN HO	396/275
*	F	US-7,088,397	08-2006	Hunter et al.	348/374
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
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FOREIGN PATENT DOCUMENTS

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	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes *1215335 0*	Application/Control No. 12153350	Applicant(s)/Patent Under Reexamination HSIN ET AL.
	Examiner EUEL K COWAN	Art Unit 2622

SEARCHED			
Class	Subclass	Date	Examiner
348	373-376 text search	12/14/2010	Euel K. Cowan
257	294 text search	12/14/2010	Euel K. Cowan

SEARCH NOTES		
Search Notes	Date	Examiner
see search history	12/14/2010	Euel K. Cowan

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner

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<i>Index of Claims</i> *1215335 0*	Application/Control No. 12153350	Applicant(s)/Patent Under Reexamination HSIN ET AL.
	Examiner EUCL K COWAN	Art Unit 2622

✓	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	12/14/2010									
	1	✓									
	2	✓									
	3	✓									
	4	✓									
	5	✓									
	6	✓									
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	24	✓									
	25	✓									
	26	✓									



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CONFIRMATION NO. 5843

SERIAL NUMBER 12/153,350	FILING or 371(c) DATE 05/16/2008 RULE	CLASS 348	GROUP ART UNIT 2622	ATTORNEY DOCKET NO. CHIP-0035		
APPLICANTS Chung-Hsien Hsin, Hsinchu City, TAIWAN; Chun-Hua Chuang, Hukou Township, TAIWAN; Chen-pin Peng, Beipu Township, TAIWAN; Chien-Wei Chang, Sinpu Township, TAIWAN; Chien-Hen Lin, Yangmei Township, TAIWAN; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 05/30/2008						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /EUEL K COWAN/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY TAIWAN	SHEETS DRAWINGS 5	TOTAL CLAIMS 26	INDEPENDENT CLAIMS 2
ADDRESS Juan Carlos A. Marquez c/o Stites & Harbison PLLC 1199 North Fairfax Street Suite 900 Alexandria, VA 22314-1437 UNITED STATES						
TITLE Image sensor structure and integrated lens module thereof						
FILING FEE RECEIVED 1330	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		

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	10	(US-20080309805-\$ or US-20060219862-\$ or US-20080191335-\$ or US-20060132644-\$ or US-20070210246-\$ or US-20050285016-\$ or US-20070264002-\$).did. or (US-7297918-\$ or US-7088397-\$).did. or (US-20050139848-\$).did.	US-PGPUB; USPAT; DERWENT	ADJ	ON	2010/12/14 09:39
L2	3	1 and (glue or adhesive) with lens holder	US-PGPUB; USPAT	ADJ	ON	2010/12/14 09:40
L3	0	1 and cur\$3 near4 (ultraviolet or uv)	US-PGPUB; USPAT	ADJ	ON	2010/12/14 09:58
L4	54	(camera or image sensor or wafer) (module or package) same cur\$3 near4 (ultraviolet or uv)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 09:58
L5	10	(camera or image sensor or wafer) (module or package) same cur\$3 near4 (ultraviolet or uv) same lens holder	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:04
L6	586	257/294.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:36
L7	0	4 & L6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:36
S1	1	12/153350	US-PGPUB; USPAT	ADJ	ON	2010/11/29 11:06

S2	3008	348/373-376.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/11/29 11:30
S3	0	image sensor (module or package) and lens (holder or frame or module) with through hole sme integrat \$3 near3 lens	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:04
S4	585	257/294.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:05
S5	1	image sensor (module or package) and lens (holder or frame or module) with through hole same (integrat\$3 or integral or embedd\$3) near3 lens	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:06
S6	7	(11/205900 or 11/206845 or 11/304003 or 11/931747 or 11/944318)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:14
S7	8	("20040149884" "20050007484" "20050179803" "20050195315" "20060006239" "20060006511" "20060024880" "7114862").PN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2010/12/10 13:19
S8	0	image sensor (module or package) and lens (holder or frame or module) same pad with (ball or ball grid array or bga) with conduct \$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:26
S9	1	image sensor (module or package) and lens (holder or frame or module) and pad with (ball or ball grid array or bga) with conduct \$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:28

S10	1	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same conduct\$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:41
S11	13	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same (conduct\$3 or through) near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:42
S12	18	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:42
S13	6	("20050139848" "20060219862" "20060284215").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:45
S14	18	image sens\$3 chip same (conduct\$3 or through) near2 (hole or channel) with electric\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 14:28
S15	25	lens (holder or module) with (fixed or glue\$1 or place\$1 or rest\$3 or adher\$3) with (top or first surface) with (chip or image sensor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 11:12
S16	38	lens (holder or module) with (compris\$3 or made or manufactu\$3) near3 (plastic or metal) same lens (compris\$3 or made or manufactu\$3) near3 (glass or plastic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 13:45
S17	30	S16 and @ad<"20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 13:45

S18	0	lens holder near4 (compris\$3 or made or manufactu\$3) near3 (plastic or metal) same lens near5 (compris\$3 or made or manufactu\$3) near3 glass near6 ir near3 cut near4 (layer or film)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:11
S19	0	lens holder near6 (compris\$3 or made or manufactu\$3) near3 (plastic or metal) and lens near5 (compris\$3 or made or manufactu\$3) near5 glass near6 ir near2cut with (layer or film or coat\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:29
S20	45	(camera or image sensor) (module or package) and lens holder with lens holder near4 (plastic or metal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:31
S21	19	(camera or image sensor) (module or package) and lens holder with lens holder near4 (compris\$3 or made or manufactu\$3) near3 (plastic or metal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:31
S22	2	(camera or image sensor) (module or package) and lens (coat\$3 or film) near5 ir cut	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:01
S23	0	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:09
S24	0	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below or under or underneath or top or on top)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:13
S25	1	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below or under or underneath or top or on top or first or second)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:13

S26	10	(camera or image sensor) (module or package) and glass lens with plastic lens with (above or below or under or underneath or top or on top or first or second)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:14
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EAST Search History (Interference)

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Examiner:
Euel K. Cowan

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IN THE DRAWINGS:

Please substitute Figure 1 as currently on file with the replacement Figure 1 attached hereto, wherein Figure 1 is being labeled as "(PRIOR ART)". The Examiner is respectfully requested to acknowledge receipt and consideration of the accompanying replacement drawing in due course.

IN THE SPECIFICATION:

Please amend the specification as set forth as follows:

In paragraph [0032]

[0032] Alternatively, the lens 42 may comprise both a glass lens 421 and a plastic lens 423. Generally, the glass lens 421 is, but not limited to be, arranged below the plastic lens[[glass]] 423. Similarly, for enhancing the imaging effect of the lens module 40, the glass lens 421 may be also coated with the IR cut filtering layer 422 or the IR cut filter glass 424 may be further embedded in the through hole 411 of the holder 41 and arranged below the plastic lens 423 for filtering infrared rays.

IN THE CLAIMS:

Claims 1-4 and 6-16 are pending in this application, wherein claims 1, 3, 4, 6 and 14 are being amended to more particularly point out and distinctly claim the subject invention, while claims 5 and 17-26 are being canceled without prejudice or disclaimer, all as follows:

1. (Currently Amended) An image sensor structure with an integrated lens module, comprising:

a chip having a plurality of light-sensing elements arranged on a light-sensing area of a first surface of the chip, a plurality of first conducting pads arranged around the light-sensing area and electrically connected to the light-sensing elements, and at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end as well as extending along with a second surface of the chip;

and

a lens module comprising a holder having a through hole and a contact surface on a bottom of the holder, wherein the contact surface is combined with the first surface, and at least one lens completely embedded [[in]] inside the through hole and integrated with the holder.
2. (Original) The image sensor structure as claimed in Claim 1, wherein the chip is a complementary metal oxide semiconductor (CMOS) image sensor chip.
3. (Currently Amended) The image sensor structure as claimed in Claim 1, wherein the chip further comprises a plurality of second conducting pads or balls which are arranged on [[a]] the second surface of the chip and electrically connected to the conducting channel.
4. (Currently Amended) The image sensor structure as claimed in Claim 1, wherein the chip further comprises a ball grid array which is arranged on [[a]] the second surface of the chip and electrically connected to the conducting channel.
5. (Canceled).

6. (Currently Amended) The image sensor structure ~~[[integrated lens module]]~~ as claimed in Claim 1, wherein a cavity is formed at the bottom of the holder.
7. (Original) The image sensor structure as claimed in Claim 1, wherein the holder is made of a plastic material or a metal material.
8. (Original) The image sensor structure as claimed in Claim 1, wherein the contact surface is combined with the first surface by an adhesive.
9. (Original) The image sensor structure as claimed in Claim 1, wherein the contact surface is combined with the first surface by an UV curable adhesive.
10. (Original) The image sensor structure as claimed in Claim 1, wherein the lens is a plastic lens.
11. (Original) The image sensor structure as claimed in Claim 10, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.
12. (Original) The image sensor structure as claimed in Claim 1, wherein the lens is a glass lens.
13. (Original) The image sensor structure as claimed in Claim 12, wherein the glass lens is coated with an IR cut filtering layer.
14. (Currently Amended) The image sensor structure as claimed in Claim 1, wherein the lens comprises a glass lens and a plastic lens, wherein the glass lens is arranged below the plastic ~~[[glass]]~~ lens.
15. (Original) The image sensor structure as claimed in Claim 14, wherein the glass lens is coated with an IR cut filtering layer.

16. (Original) The image sensor structure as claimed in Claim 14, which further comprises an IR cut filter glass which is embedded in the through hole and arranged below the plastic lens.

17-26. (Canceled).

REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated December 28, 2010 (USPTO Paper No. 20101210). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 1-4 and 6-16 are pending in this application, wherein claims 1, 3, 4, 6 and 14 are being amended to more particularly point out and distinctly claim the subject invention, while claims 5 and 17-26 are being canceled without prejudice or disclaimer. In addition, the specification is being amended to correct a minor formality error. All amendments to the specification and to the claims are fully supported throughout the disclosure of the invention. Applicants submit that no new matter is being introduced into this application through the submission of this response.

Formality Objections and Rejections

The Examiner objected to Figure 1 on the grounds that this drawing should be labeled as “(PRIOR ART)”. As outlined above and as shown in the attached replacement drawing, Applicant is amending the drawing in accordance with the Examiner’s requirements.

Prior Art Rejections

Claims 1-6, 17, and 18 were rejected under 35 USC §103(a) as being unpatentable over Yang (US Publication No. 2008/0191335, hereafter “Yang”), in view of Shangguan (US Publication No. US 2006/0132644, hereafter “Shangguan”). Claims 7 and 19 were rejected under 35 USC §103(a) as being unpatentable over Yang in view of Shangguan, and further in view of Hunter (US Patent No. 7,088,397, hereinafter “Hunter”). Claims 8, 10-12, 14, 20-22 and 24 were rejected under 35 USC §103(a) as being unpatentable over Yang in view of Shangguan, and further in view of Ellenberger (US Publication No. 2007/0210246, hereinafter “Ellenberger”). Claim 9 was rejected under 35 USC §103(a) as being unpatentable over Yang in view of Shangguan, and further in view of Lee (US Publication No. 2007/0248355, hereinafter

“Lee”). Lastly, claims 13, 15, 16, 23, 25 and 26 were rejected under 35 USC §103(a) as being unpatentable over Yang in view of Shangguan, and further in view of Ellenberger and Lee. Applicants have reviewed the above-noted rejection, and hereby respectfully traverse for the reasons set forth hereinbelow.

A proper obviousness rejection requires establishing that the prior art references, when combined, teach or suggest all of the claim limitations. MPEP §2143. Furthermore, “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Rather, a “convincing line of reasoning supporting rejection” must be presented. MPEP §2144. The rationale to support a conclusion that a claim would have been obvious is that “a person of ordinary skill in the art would have been motivated to combine the prior art to achieve the claimed invention and that there would have been a reasonable expectation of success.” *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1360 (Fed. Cir. 2006).

As currently recited in claim 1, the present invention is directed to an image sensor structure with an integrated lens module, comprising: a chip having a plurality of light-sensing elements arranged on a light-sensing area of a first surface of the chip, a plurality of first conducting pads arranged around the light-sensing area and electrically connected to the light-sensing elements, and at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end as well as extending along with a second surface of the chip; and a lens module comprising a holder having a through hole and a contact surface on a bottom of the holder, wherein the contact surface is combined with the first surface, and at least one lens completely embedded inside the through hole and integrated with the holder.

In the Office Action, Yang was cited for teaching an image sensor structure with an integrated lens module, comprising a chip, a plurality of light-sensing elements, a plurality of first conducting pads, a conducting channel passing through the chip and electrically connected to the first conducting pads, and a lens module comprising a holder with a through hole and a contact surface on the bottom of the holder, and one lens embedded in the through hole and integrated with the holder. However, as admitted by the Examiner, Yang does not disclose that

the contact surface is combined with the first surface; the Examiner relied on Shangguan to provide this teaching.

In contrast to the Examiner's assertions, the structure disclosed in Yang in actuality consists of a "PLP [that] includes a **substrate 2** having predetermined die through holes 10 and contact (inter-connecting) through holes 6 formed therein, wherein the die through hole is to receive a die 16. Preferably, the die 16 is an image sensor die. **Pluralities of the contact through holes 6 are created through the substrate 2 from upper surface to lower surface of the substrate 2, wherein the contact (inter-connecting) through holes 6 is surrounded (peripheral type) by the substrate 2. A conductive material will be re-filled into the through holes 6 for electrical communication. Terminal pads 8 are located on the lower surface of the substrate 2 and connected to the contact through holes 6 with conductive material. Contact conductive, such as metal, the contact pads 22 are located on the upper surface of the substrate 2 and also connected to the contact through holes 6 with conductive material. A terminal conductive pad 30 is configured on the lower surface of the substrate 2 to solder joining an external object. A wire bonding 24 is connected between pads 20 of the die 16 and contact metal pads 22 of the pre-formed substrate 2. A thick dielectric layer 38, for instance silicone polymer base material, is formed over the upper surface except the wire bonding 24 area, micro lens area 46 and the contact pads area 22 for adhesion with transparent cover; and core paste 50 is filled into the gap between the die 16 edge and sidewall of die through hole 10 and die back site as die attached materials. In one embodiment, material of the thick dielectric layer 38 comprises silicone polymer base type, polyimide base, silicone rubber type, epoxy resin type, elastic material, photosensitive material, and the thick dielectric layer 38 may be formed by coating or printing method with photo-sensitive properties**" (See paragraph [0020]) [Emphasis added]. In particular, Yang discloses a structure in which an image sensor die 16 is mounted on a substrate 2 with the conductive pads 22, contact through holes 6 and terminal pads 8 are all formed on the substrate. In other words, any "conducting channels" in the device of Yang pass through the substrate and NOT through the die or chip itself. Thus, Yang cannot show or suggest any structure or operation that could anticipate or render obvious, among other elements, at least one conducting channel passing through the chip and electrically connected to the first conducting pads at one end as well as extending along with a second surface of the chip, as in the claimed invention.

Further, the structure disclosed in Yang embodies a device that includes a predetermined die. In order for the die to have an electrical connection, the die must have contact pads that connect to the wire bonding, which connects to the contact metal pads, which are situated over the contact through holes and connected to soldering on the bottom of the substrate. The contact through holes only extend vertically passing through the substrate instead of the chip. They only contact terminal conductive pads that extend along the side of the chip, and are connected to contact metal pads that need to be further connected to wires and another set of contact pads to have access to the die.

With the claimed invention, on the other hand, the structure and operation of the device dispenses with the multitude of steps required by the manufacture of the device in Yang. The claimed invention provides for only first conductive pads that are arranged around the light-sensing area and connect the light sensing elements to the conducting channel that then connects to the second conducting pads or balls. Thus, the claimed invention eliminates the need for wire bonding in Yang, thereby decreasing the number of manufacturing steps and the potential of mishaps and errors occurring. At the same time, the claimed invention provides conducting channels that have two different structures which are utilized differently. The conducting channels of the claimed invention are not only vertical in structure, but also extend horizontally along the second surface of the chip, allowing for multiple connections to the second conducting pads or balls. Thus, the claimed invention achieves features and advantages that are neither contemplated nor even possible in the device disclosed by Yang.

Applicants would even contend that the structure and operation shown by Yang are inconsistent with, thereby teaching away from, the structure and operation of the claimed invention. It is well established that [a] prior patent must be considered in its entirety, i.e., as a whole, including portions that would lead away from the invention in suit, *W.L.Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 U.S.P.Q. 303, 311 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984); elements of separate prior patents cannot be combined when there is no suggestions of such combination anywhere in those patents, *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 922 (Fed. Cir. 1984).

The secondary reference of Shangguan was cited for showing that the contact surface of the lens holder is combined with the first surface. However, contrary to the Examiner's assertions, Shangguan merely shows a lens that sits on top of a lens holder, and on top of the

PCB. In contrast, the claimed invention embodies a structure wherein the lens is completely embedded in the holder on top of the chip, making contact with the top surface of the chip at the contact surface. Thus, the claimed invention dispenses with having to use a PCB at all, whereas the structure of Shangguan, and consequently any structure that embodies the combination of Yang and Shangguan would require it. The present significantly decreases the size and weight of the entire mechanism as compared to the prior art, thereby again achieving features and advantages that are neither contemplated nor even possible in the device(s) disclosed by Yang and/or Shangguan, either by themselves or in combination.

Regarding the secondary references of Hunter, Ellenberger, and Lee, Applicants would point out that these references were merely cited for showing elements in the dependent claims. None of these references provides any teaching or suggestion that could make up for the deficiencies in Yang and Shangguan such that any of their combinations could now render each and every feature of the claimed invention obvious to those of skill in the art. Rather, even if all of Yang, Shangguan, Hunter, Ellenberger and Lee were combined, such a combination would still fail to show or suggest all the features of the claimed invention. The present invention as claimed is distinguishable and thereby allowable over the prior art of record.

Further, with respect to dependent claims 2-4, 6-16, since the prior art raised by the Examiner cannot anticipate the features recited in claim 1, it also cannot anticipate all the features recited in any of the dependent claims. As noted by the court in *Panduit Corp. v. Dennison Manufacturing Co.*, U.S.P.Q. 2d 1593, 1597 (Fed. Cir. 1987), it is settled law that: [A] prior patent must be considered in its entirety, i.e., as a whole, including portions that would lead away from the invention in suit, *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550, 220 U.S.P.Q. 303, 311 (F. C. 1983), cert. denied, 469 U.S. 851 (1984).

In view of all the above, Applicants will strongly contend that neither Yang nor Shangguan provides any showing or suggestion that would motivate those of skill in the art to combine these references in such a manner as to embody all the features of the claimed invention. Rather, the combination of these references would only result in a structure that has all the disadvantages and shortfalls that the claimed invention is directed to avoiding. Therefore, Applicants will also contend that any combination of Yang with Shangguan in order to achieve the claimed invention could only be done by using knowledge of the claimed invention as a blueprint for making the combination. As the Federal Circuit has stated in *In re Hedges*, 228

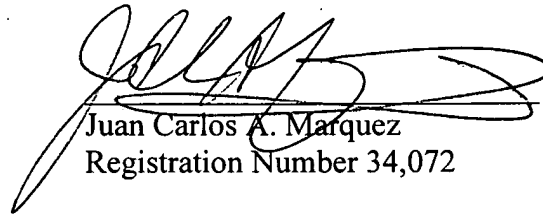
U.S.P.Q. at 678 “[I]t is impermissible within the framework of USC §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of the other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *See also Application of Wesslau*, 353 F.2d 238. The mere fact that prior art may be modified to reflect features of the claimed invention is not enough under 35 USC 103 – there must be a suggestion of motivation, desirability of the differences suggested by the examiner. *In re Fritch*, 23 U.S.P.Q.2d 1780. Additionally, where one skilled in the art might find it obvious to try various combinations of materials disclosed in the prior art, this is not the standard of 35 U.S.C. §103 and disregards the “invention as a whole” concept of §103. The standard is not that it could be obvious for one of ordinary skill in the art to try. *In re Antonie*, 195 U.S.P.Q.2d 6; *In re Goodwin*, 1898 U.S.P.Q. 1. Patentability based on “obviousness to try in any research endeavor” as a test would be contrary to statute. *In re Tomlinson*, 150 U.S.P.Q. 623, emphasis added. Lastly, it is impermissible to build a prima facie case of obviousness 35 USC §103 by combining teachings of prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination. *See ACS Hospital v. Montefior*, 221 U.S.P.Q. 929. Consequently, Applicants will contend that the claimed invention is distinguishable and thereby allowable over the combination of Yang and Shangguan.

Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art as a whole. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,



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Registration Number 34,072

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Alexandria, VA 22314-1437
(703) 739-4900 Voice
(703) 739-9577 Fax
Customer No. 38327
March 28, 2011

196083:2:ALEXANDRIA

REPLACEMENT SHEET

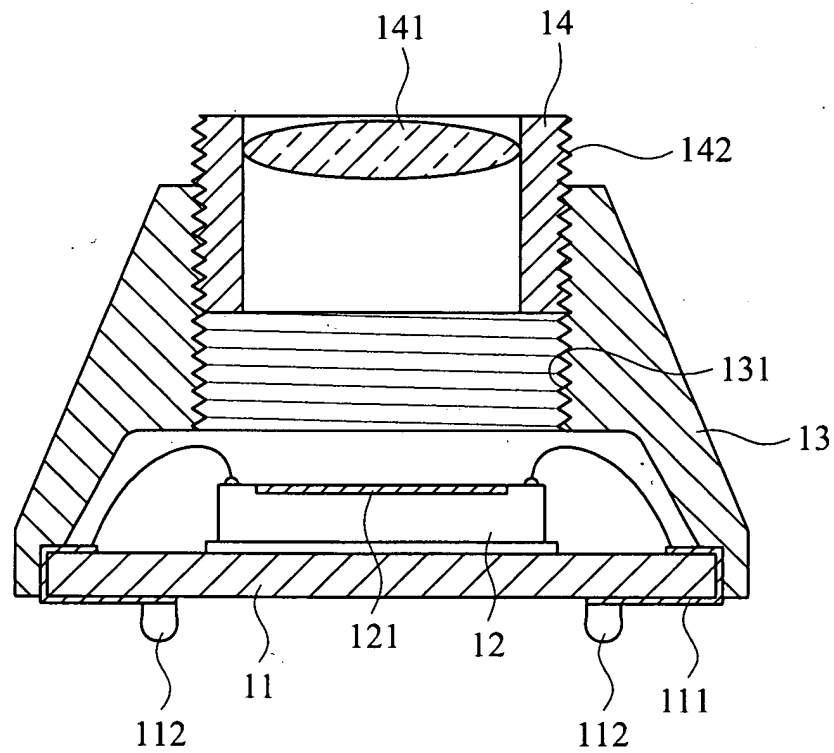
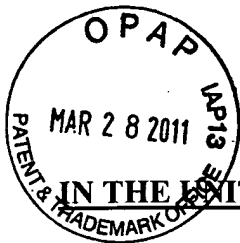


FIG. 1
(PRIOR ART)



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of)

HSIN et al.)

Application Number: 12/153,350)

Filed: May 16, 2008)

For: IMAGE SENSOR STRUCTURE AND)
INTEGRATED LENS MODULE THEREOF)

ATTORNEY DOCKET NO. CHIP.00035)

Art Unit 2622

Examiner:
Euel K. Cowan

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

COVER LETTER

Sir:

[x] The fee for submission of claims is calculated as shown below:

FOR	TOTAL WITH NEW CLAIMS ADDED	TOTAL CURRENTLY ON FILE	CLAIMS ALREADY PAID	RATE	CALCULATION
Total Claims	15	26	6 (Over 20)	x \$52	0
Independent Claims	1	2	(Over 3)	x \$220	0
MULTIPLE DEPENDENT CLAIM(S)				+ \$390	0
REDUCTION FOR FILING BY SMALL ENTITY (note 37 C.F.R. §§ 1.9, 1.27, 1.28).				x ½	
				TOTAL	\$0

In addition, the below-identified communications are submitted in the above-captioned application or proceeding:

[x] Response and Amendment to Office Action
(with claim amendments)
[] Substitute Abstract
[] Terminal Disclaimer

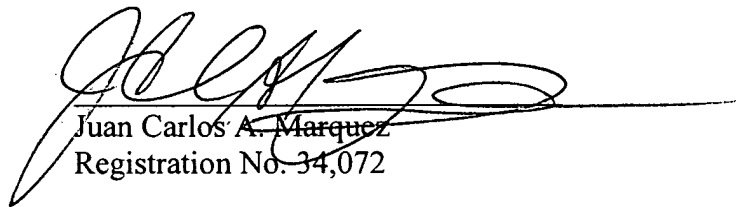
[] Information Disclosure Statement
[x] 1 sheet of replacement drawings
[] RCE
[] Other:

- ☐ Applicant(s) hereby request and petition that the time for taking action in this case be extended pursuant to 37 C.F.R. § 1.136(a) for:
☐ one (1) month ☐ two (2) months ☐ three (3) months

The fee set in 37 C.F.R. § 1.17 for the extension of time is \$_____ for a large/small entity.

- ☐ Credit card information for \$_____ to cover the fee associated with this filing is enclosed.
- ☐ Please charge my **Deposit Account Number** _____ in the amount of _____ to cover the fees for _____.
- ☒ The Commissioner is hereby authorized to charge any additional fees associated with this communication, including fees under 37 C.F.R. § 1.16 and 1.17, or credit any overpayment to **Deposit Account Number 12-0555**.

Respectfully submitted,


Juan Carlos A. Marquez
Registration No. 34,072

STITES & HARBISON PLLC
1199 North Fairfax Street, Suite 900
Alexandria, VA 22314
Telephone: (703) 739-4900
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Customer No. 38327
March 28, 2010

J54590:00332:199696:1:ALEXANDRIA

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 12/153,350		Filing Date 05/16/2008		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		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 \$250 (\$125 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))										
			TOTAL			TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	03/28/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	=	0		X \$52=	0	
	Independent (37 CFR 1.16(h))	* 1	Minus	*** 3	=	0		X \$220=	0	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	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			TOTAL ADD'L FEE		
<p>* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.</p> <p>** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".</p> <p>*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".</p> <p>The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.</p>										

Legal Instrument Examiner:
/KIMBERLY PANNELL/

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

38327 7590 06/10/2011
Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437

EXAMINER

COWAN, EUEL K

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 06/10/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

12/153,350

05/16/2008

Chung-Hsien Hsin

CHIP-0035

5843

TITLE OF INVENTION: IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	09/12/2011

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 SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

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: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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)

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.

38327 7590 06/10/2011
Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437

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.
-----------------	-------------	----------------------	---------------------	------------------

12/153,350 05/16/2008 Chung-Hsien Hsin CHIP-0035 5843

TITLE OF INVENTION: IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 09/12/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
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COWAN, EUEL K 2622 348-340000

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, 1 _____
(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. 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 credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information 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.

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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.
12/153,350	05/16/2008	Chung-Hsien Hsin	CHIP-0035	5843

38327 7590 06/10/2011
Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437

EXAMINER

COWAN, EUEL K

ART UNIT PAPER NUMBER

2622

DATE MAILED: 06/10/2011

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

The Patent Term Adjustment to date is 530 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 530 day(s).

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 Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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.	Applicant(s)	
	12/153,350	HSIN ET AL.	
	Examiner	Art Unit	
	EUEL COWAN	2622	

-- 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 3/28/2011.
2. ☒ The allowed claim(s) is/are 1-4 & 6-16 (renumbered 1-15).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- 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.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ 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)

- | | |
|--|---|
| <p>1. ☒ Notice of References Cited (PTO-892)</p> <p>2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____</p> <p>4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. ☐ Notice of Informal Patent Application</p> <p>6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____.</p> <p>7. ☐ Examiner's Amendment/Comment</p> <p>8. ☒ Examiner's Statement of Reasons for Allowance</p> <p>9. ☐ Other ____.</p> |
|--|---|

/LIN YE/
Supervisory Patent Examiner, Art Unit 2622

DETAILED ACTION

Drawings

1. The drawings were received on 3/28/2011. These drawings are acceptable.

Allowable Subject Matter

2. Claims 1-4 & 6-16 are allowed.
3. The following is an examiner's statement of reasons for allowance: The nearest prior art Lee, Pub. No. US 2007/0216028 teaches a conducting channel passing through the chip along a second side of an insulator that is between the channel and the chip. He does not teach the channel extending along the second side of the chip itself.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chien, Pub. No. US 2009/0014826, teaches a conducting layer extending along the second surface of an insulator. Yang teaches an image sensor on a chip surrounded by conducting pads.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EUEL COWAN whose telephone number is (571)270-5093. The examiner can normally be reached on Mon. - Thur: 8am - 5pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571 272 7372. 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.

/LIN YE/
Supervisory Patent Examiner, Art
Unit 2622

/Euel K Cowan/
Examiner, Art Unit 2622

Notice of References Cited	Application/Control No. 12/153,350		Applicant(s)/Patent Under Reexamination HSIN ET AL.	
	Examiner EUEL COWAN		Art Unit 2622	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-2008/0191335	08-2008	Yang et al.	257/680
*	B	US-2009/0014826	01-2009	Chien et al.	257/433
*	C	US-2007/0216028	09-2007	Lee et al.	257/738
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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CONFIRMATION NO. 5843

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
12/153,350	05/16/2008	348	2622	CHIP-0035		
RULE						
APPLICANTS Chung-Hsien Hsin, Hsinchu City, TAIWAN; Chun-Hua Chuang, Hukou Township, TAIWAN; Chen-pin Peng, Beipu Township, TAIWAN; Chien-Wei Chang, Sinpu Township, TAIWAN; Chien-Hen Lin, Yangmei Township, TAIWAN; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 05/30/2008						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and /EUEL K COWAN/ Acknowledged Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY TAIWAN	SHEETS DRAWINGS 5	TOTAL CLAIMS 26	INDEPENDENT CLAIMS 2
ADDRESS Juan Carlos A. Marquez c/o Stites & Harbison PLLC 1199 North Fairfax Street Suite 900 Alexandria, VA 22314-1437 UNITED STATES						
TITLE Image sensor structure and integrated lens module thereof						
FILING FEE RECEIVED 1330	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		

Issue Classification 	Application/Control No. 12153350	Applicant(s)/Patent Under Reexamination HSIN ET AL.
	Examiner EUCL COWAN	Art Unit 2622

ORIGINAL						INTERNATIONAL CLASSIFICATION												
CLASS		SUBCLASS				CLAIMED					NON-CLAIMED							
348		373				H	0	4	N	5 / 225 (2006.0)								
CROSS REFERENCE(S)						H	0	4	N	5 / 225 (2006.0)								
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)																	
348	374																	

☐ 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	1		17												
2	2		18												
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/EUCL COWAN/ Examiner.Art Unit 2622 (Assistant Examiner)	5/26/2011 (Date)	Total Claims Allowed: 15	
/LIN YE/ Supervisory Patent Examiner.Art Unit 2622 (Primary Examiner)	06/03/2011 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2

Search Notes 	Application/Control No. 12153350	Applicant(s)/Patent Under Reexamination HSIN ET AL.
	Examiner EUEL K COWAN	Art Unit 2622

SEARCHED			
Class	Subclass	Date	Examiner
348	373-376 text search	12/14/2010	Euel K. Cowan
257	294 text search	12/14/2010	Euel K. Cowan
348	373-376	5/26/2011	Euel K. Cowan
257	294,459,e23.001,21.499,e23.02	5/26/2011	Euel K. Cowan
250	208.1,239	5/26/2011	Euel K. Cowan
396	529,532	5/26/2011	Euel K. Cowan

SEARCH NOTES		
Search Notes	Date	Examiner
see search history	12/14/2010	Euel K. Cowan
discussed with Mekonen Dagnew, Lin Ye, Jason Whipkey	5/26/2011	Euel K. Cowan
inventor search	5/26/2011	Euel K. Cowan

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
	Pg-Pub text search	5/26/2011	Euel K. Cowan

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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L6	1	("2007/0216028").URPN.	USPAT	ADJ	ON	2011/05/26 13:39
L7	4074	257/459,e23.001,21.499, e23.02.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 13:42
L8	51	image sensor (module or package) and lens (holder or frame or module) and via with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 13:43
L9	42	8 and @ad<"20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 13:43
L10	4695	257/294,459, e23.001,21.499,e23.02. ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 13:54
L11	21	image sensor (module or package) and eliminat\$3 near4 wire bonding	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 13:58
L12	1	image sensor (module or package) and (obviate\$3 or remov\$3 or unnecessary) near4 wire bonding	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:05
L14	7	((CHUNG-HSIEN) near2 (HSIN)).INV.	US-PGPUB; USPAT	ADJ	ON	2011/05/26 14:30
L15	15	((CHUN-HUA) near2 (CHUANG)).INV.	US-PGPUB; USPAT	ADJ	ON	2011/05/26 14:30

L16	2	((CHEN-PIN) near2 (PENG)).INV.	US-PGPUB; USPAT	ADJ	ON	2011/05/26 14:30
L17	44	((CHIEN-WEI) near2 (CHANG)).INV.	US-PGPUB; USPAT	ADJ	ON	2011/05/26 14:30
L18	2	((CHIEN-HEN) near2 (LIN)).INV.	US-PGPUB; USPAT	ADJ	ON	2011/05/26 14:31
L19	6	(14 or 15 or 16 or 17 or 18) and image sensor (module or package)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:32
L20	7	(14 or 15 or 16 or 17 or 18) and image sensor (module or package or structure)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:32
L21	101	image sensor (module or package) and lens (module or holder) with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:33
L22	2	image sensor structure and lens (module or holder) with chip not L21	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:33
L23	20	image sensor structure and via with chip not L21	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:34
L25	2	20 and via same chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 14:35
L27	1	9 & 10	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 15:01

L28	1126	396/529,532.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 15:14
L29	103	image sensor (structure or module or package) and lens (module or holder) with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 15:16
L30	6	28 and 29	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/26 15:16
S1	1	12/153350	US-PGPUB; USPAT	ADJ	ON	2010/11/29 11:06
S2	3008	348/373-376.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/11/29 11:30
S3	0	image sensor (module or package)and lens (holder or frame or module) with through hole sme integrat \$3 near3 lens	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:04
S4	585	257/294.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:05
S5	1	image sensor (module or package)and lens (holder or frame or module) with through hole same (integrat\$3 or integral or embedd\$3) near3 lens	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:06
S6	7	(11/205900 or 11/206845 or 11/304003 or 11/931747 or 11/944318)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:14

S7	8	("20040149884" "20050007484" "20050179803" "20050195315" "20060006239" "20060006511" "20060024880" "7114862").PN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2010/12/10 13:19
S8	0	image sensor (module or package) and lens (holder or frame or module) same pad with (ball or ball grid array or bga) with conduct \$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:26
S9	1	image sensor (module or package) and lens (holder or frame or module) and pad with (ball or ball grid array or bga) with conduct \$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:28
S10	1	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same conduct\$3 near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:41
S11	13	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same (conduct\$3 or through) near2 (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:42
S12	18	image sensor (module or package) and lens (holder or frame or module) and pad same (ball or ball grid array or bga) same (hole or channel)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:42
S13	6	("20050139848" "20060219862" "20060284215").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 13:45

S14	18	image sens\$3 chip same (conduct\$3 or through) near2 (hole or channel) with electric\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/10 14:28
S15	25	lens (holder or module) with (fixed or glue\$1 or place\$1 or rest\$3 or adher\$3) with (top or first surface) with (chip or image sensor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 11:12
S16	38	lens (holder or module) with (compris\$3 or made or manufactu\$3) near3 (plastic or metal) same lens (compris\$3 or made or manufactu\$3) near3 (glass or plastic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 13:45
S17	30	S16 and @ad<"20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 13:45
S18	0	lens holder near4(compris\$3 or made or manufactu\$3) near3 (plastic or metal) same lens near5 (compris\$3 or made or manufactu\$3) near3 glass near6 ir near3 cut near4 (layer or film)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:11
S19	0	lens holder near6 (compris\$3 or made or manufactu\$3) near3 (plastic or metal) and lens near5 (compris\$3 or made or manufactu\$3) near5 glass near6 ir near2cut with (layer or film or coat\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:29
S20	45	(camera or image sensor) (module or package) and lens holder with lens holder near4 (plastic or metal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:31

S21	19	(camera or image sensor) (module or package) and lens holder with lens holder near4 (compris\$3 or made or manufactu\$3) near3 (plastic or metal)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 14:31
S22	2	(camera or image sensor) (module or package) and lens (coat\$3 or film) near5 ir cut	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:01
S23	0	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:09
S24	0	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below or under or underneath or top or on top)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:13
S25	1	(camera or image sensor) (module or package) and glass lens with plastic lens (above or below or under or underneath or top or on top or first or second)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:13
S26	10	(camera or image sensor) (module or package) and glass lens with plastic lens with (above or below or under or underneath or top or on top or first or second)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/13 15:14
S27	10	(US-20080309805-\$ or US-20060219862-\$ or US-20080191335-\$ or US-20060132644-\$ or US-20070210246-\$ or US-20050285016-\$ or US-20070264002-\$).did. or (US-7297918-\$ or US-7088397-\$).did. or (US-20050139848-\$).did.	US-PGPUB; USPAT; DERWENT	ADJ	ON	2010/12/14 09:39
S28	3	S27 and (glue or adhesive) with lens holder	US-PGPUB; USPAT	ADJ	ON	2010/12/14 09:40
S29	0	S27 and cur\$3 near4 (ultraviolet or uv)	US-PGPUB; USPAT	ADJ	ON	2010/12/14 09:58

S30	54	(camera or image sensor or wafer) (module or package) same cur\$3 near4 (ultraviolet or uv)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 09:58
S31	10	(camera or image sensor or wafer) (module or package) same cur\$3 near4 (ultraviolet or uv) same lens holder	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:04
S32	586	257/294.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:36
S33	0	S30 & S32	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2010/12/14 10:36
S34	187	(camera or image sensor) (module or package) same chip and (conduct\$3 or terminal or via) with through near3 chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:20
S36	7503	250/239,208.1.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:24
S37	3198	348/373-376.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:25
S38	625	257/294.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:25

S39	3822	S37 or S38	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:25
S40	6	S39 and S34	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 10:26
S41	182	(camera or image sensor) (module or package) same chip and (conduct\$3 or via) with through near3 (chip or image sens\$3 device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:09
S42	1	(camera or image sensor) (module or package) same chip and conduct\$3 pad with first (side or surface) with second (side or surface) near3 (chip or image sens\$3 device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:19
S43	1	(camera or image sensor) (module or package) and conduct\$3 pad with first (side or surface) near3 (chip or image sens\$3 device) with second (side or surface) near3 (chip or image sens\$3 device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:21
S44	1	(camera or image sensor) (module or package) and (conduct\$3 or electrical) pad with first (side or surface) near3 (chip or image sens\$3 device) with second (side or surface) near3 (chip or image sens \$3 device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:22
S45	2	(camera or image sensor) (module or package) and (conduct\$3 or electrical) pad with first (side or surface) with second (side or surface) with (chip or image sens\$3 device)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:23

S46	2	(camera or image sensor) (module or package) and (conduct\$3 or electrical) pad with first (side or surface) with second (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:23
S47	20	(camera or image sensor) (module or package or structure) and (conduct\$3 or electrical) (pad or contact) with first (side or surface) same second (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:24
S48	236	(camera or image sensor) (module or package or structure) and (conduct\$3 or electrical) (pad or contact) with (via or hole)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:47
S49	15	(camera or image sensor) (module or package or structure) and (conduct\$3 or electrical) (pad or contact) with (via or hole) same first with second (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:48
S50	17	(camera or image sensor) (module or package or structure) and (conduct\$3 or electrical) (pad or contact) with (via or hole) same first same second (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:50
S51	2	S50 not S49	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:50
S52	9617	257/208,294459,e21.499,e23.02,e23.011.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 11:59
S53	343	(camera or image sensor) (module or package or structure) and (via or hole) same first same second (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 13:08

S54	950	(camera or image sensor) (module or package or structure) and (via or hole) same first with second with (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 13:09
S55	69	(camera or image sensor) (module or package or structure) and (via or hole) same first with second with (side or surface) near3 (chip or image sens\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 13:09
S56	2	(camera or image sensor) (module or package or structure) and (via or hole) same (contact or electrical)pad with top with bottom near4 (chip or image sens\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 13:19
S57	1	12/009094	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 13:24
S58	2	(camera or image sensor) (module or package or structure) and (via or via near1 hole) with (extend \$3 or reach\$3) (first or top or bottom or second) (side or surface) with (chip or image sens\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 14:18
S59	5	(camera or image sensor) (module or package or structure) and (via or via near1 hole) with (extend \$3 or reach\$3) with (ball grid or bga)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 14:19
S60	13	(camera or image sensor) (module or package or structure) and (via or via near1 hole) with (extend \$3 or reach\$3) (first or top or bottom or second) (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 14:21

S61	410	(camera or image sensor) (module or package or structure) and (via or via near1 hole) with (first or top or bottom or second) (side or surface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 14:21
S62	16	("20070154198" "20070278701" "20080142917" "20080164553" "20080217715" "6777767" "7167376" "7167376" "7665915"). PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 14:30
S63	7	("20060098969" "20060202349" "20070122146" "20070269205" "20080164550" "6916685" "7065869"). PN. OR ("7665915"). URPN.	US-PGPUB; USPAT; USOCR	ADJ	ON	2011/05/24 15:35
S64	0	("2008/0164553").URPN.	USPAT	ADJ	ON	2011/05/24 15:38
S65	121	(electrical or conducting or plating or metal\$3) (lin \$3 or material or layer or pattern) with (via hole or via) and (image sensor or camera) (package or module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 15:44
S66	89	S65 and @ad< "20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 15:45
S67	292	(electrical\$2 or conduct\$3 or plating or metal\$3) (lin \$3 or material or layer or pattern) with (via hole or via) and (image sensor or camera) (package or module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 15:47
S68	215	S67 and @ad< "20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 15:48

S69	105	(electrical\$2 or conduct\$3 or plating or metal\$3) (lin \$3 or material or layer or pattern) with (via hole or via) same chip and (image sensor or camera) (package or module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/24 15:49
S70	1	("2007/0146534").URPN.	USPAT	ADJ	ON	2011/05/25 10:31
S71	190	samsung.asn. and camera module	USPAT	ADJ	ON	2011/05/25 10:32
S72	2031	samsung.asn. and camera module	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 10:32
S73	2207	samsung.asn. and (camera or image sensor) (module or package)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 10:33
S74	1438	S73 and @ad<"20080516"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 10:33
S75	7	S74 and lens (module or holder) with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 10:34
S76	35	S74 and lens (module or holder) with (chip or image sensor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 10:54
S77	10	S74 and lens (module or holder) with (on or on top or adhered or attached or mounted) near3 (chip or image sensor)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 11:07

S78	24	image sensor (module or package) and lens (module or holder) with (on or on top or adhered or attached or mounted) near5 chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 11:29
S79	101	image sensor (module or package) and lens (module or holder) with chip	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 12:54
S80	77	S79 not S78	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	ADJ	ON	2011/05/25 12:54

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L26	0	(image sensor and (pixels or light receiving) and first and second and surface and conducting pads and conducting (channel or layer) and chip and electrical\$2 and first conducting pads).clm.	USPAT; UPAD	ADJ	ON	2011/05/26 14:58

5/ 26/ 2011 3:22:31 PM**C:\ Documents and Settings\ ecowan\ My Documents\ EAST\ Workspaces\ 12153350.wsp**



PART B - ISSUE FEE (S) TRANSMITTAL

Complete and mail this form, together with applicable fees, to:

Box ISSUE FEE
Assistant Commissioner for Patents
Washington, D.C. 20231

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 4 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: Legibly mark-up with any corrections or use Block 1)

STITES & HARBISON, PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314

Note: The certificate of mailing below 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

Certificate of Mailing

I hereby certify that this Issue Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelop addressed to the Box Issue Fee address on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/153,350	05/16/2008	Chung-Hsien Hsin	CHIP-0035	5843

TITLE OF INVENTION: IMAGE SENSOR STRUCTURE AND INTEGRATED LENS MODULE THEREOF

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1,510	\$300	\$1,810	09/12/2011

EXAMINER	ART UNIT	CLASS - SUBCLASS
Cowan, Euel K.	2622	348-340000

1. Change of correspondence address or indication of "Fee Address" (37 CFR §1.363). Use of PTO form(s) and Customer Number are recommended, but not required.

☐ 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) attached.

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 (have 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. Stites & Harbison PLLC

2. Juan Carlos A. Marquez, Esq.

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. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the USPTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

KINGPAK TECHNOLOGY INC.

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Hsin Chu Hsien, Taiwan R.O.C.

Please check the appropriate assignee category (will not be printed on the patent): ☐ individual☒ Corporation or private group entity☐ government

4a. The following fees are enclosed:

☒ Issue fee☒ Publication Fee☐ Advance Order - # of Copies

4b. Payment of Fee(s):

☒ Payment by credit card. Form PTO-2038 is attached.☒ The Commissioner is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number 12-0555

The COMMISSIONER OF PATENTS AND TRADEMARKS is requested to apply the Issue Fee and Publication Fee (if any) to the application identified above.

(Authorized Signature)

(Date) July 15, 2011

Juan Carlos A. Marquez Reg. No. 34,072

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered patent attorney or agent; or the assignee or other party in interest as shown by the records of the Patent and Trademark Office

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, United States Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington, D.C. 20231

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07/18/2011 AWONDAF2 00000000 12153350

01 FC:1501

02 FC:1504

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TRANSMIT THIS FORM WITH FEE(S)



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.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/153,350	08/23/2011	8004602	CHIP-0035	5843

38327 7590 08/03/2011

Juan Carlos A. Marquez
c/o Stites & Harbison PLLC
1199 North Fairfax Street
Suite 900
Alexandria, VA 22314-1437

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 629 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):

Chung-Hsien Hsin, Hsinchu City, TAIWAN;
Chun-Hua Chuang, Hukou Township, TAIWAN;
Chen-pin Peng, Beipu Township, TAIWAN;
Chien-Wei Chang, Sinpu Township, TAIWAN;
Chien-Hen Lin, Yangmei Township, TAIWAN;



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 NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/153,350	8004602	2622	9200



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 123720 on 04/23/2014

- Correspondence Address

The address of record for Customer Number 123720 is:

123720
MORRIS MANNING & MARTIN LLP
IP DEPARTMENT
1401 EYE STREET, N.W., SUITE 600
WASHINGTON, DC 20005



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 NUMBER	PATENT NUMBER	GROUP ART UNIT	FILE WRAPPER LOCATION
12/153,350	8004602	2622	9200



Correspondence Address/Fee Address Change

The following fields have been set to Customer Number 38327 on 07/21/2014

- Correspondence Address

The address of record for Customer Number 38327 is:

38327

Juan Carlos A. Marquez

Bacon & Thomas PLLC

625 Slaters Lane

4th Floor

Alexandria, VA 22314-1176

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Eastern District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 4:19-cv-485-ALM	DATE FILED 7/3/2019	U.S. DISTRICT COURT Eastern District of Texas
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Panasonic Corporation et al.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,876,544	4/5/2005	KT Imaging USA, LLC
2 7,196,322	3/27/2007	KT Imaging USA, LLC
3 8,004,602	8/23/2011	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Eastern District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 4:19-cv-486-ALM	DATE FILED 7/3/2019	U.S. DISTRICT COURT Eastern District of Texas
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Lightcomm Technology Co., Ltd.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,004,602	8/23/2011	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Eastern District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 4:19-cv-488-ALM	DATE FILED 7/3/2019	U.S. DISTRICT COURT Eastern District of Texas
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Kyocera Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,876,544	4/5/2005	KT Imaging USA, LLC
2 7,196,322	3/27/2007	KT Imaging USA, LLC
3 8,004,602	8/23/2011	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 4:19-cv-488-ALM	DATE FILED 7/3/2019	U.S. DISTRICT COURT Eastern District of Texas
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Kyocera Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,876,544	4/5/2005	KT Imaging USA, LLC
2 7,196,322	3/27/2007	KT Imaging USA, LLC
3 8,004,602	8/23/2011	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT ORDER. It is ORDERED that all claims and counterclaims asserted in this action are dismissed WITH PREJUDICE.

CLERK <i>David A. O'Boyle</i>	(BY) DEPUTY CLERK <i>Rufus</i>	DATE 12/30/19
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AO 120 (Rev. 08/10)

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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas - Sherman Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 4:20-cv-339	DATE FILED 4/20/2020	U.S. DISTRICT COURT Eastern District of Texas - Sherman Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Samsung Electronics Co., Ltd. and, Samsung Electronics America, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,590,269	7/8/2003	KT Imaging USA, LLC
2 6,876,544	4/5/2005	KT Imaging USA, LLC
3 7,196,322	3/27/2007	KT Imaging USA, LLC
4 7,511,261	3/31/2009	KT Imaging USA, LLC
5 8,004,602	8/23/2011	KT Imaging USA, LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas - Sherman Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 4:20-cv-339	DATE FILED 4/20/2020	U.S. DISTRICT COURT Eastern District of Texas - Sherman Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Samsung Electronics Co., Ltd. and, Samsung Electronics America, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,314,481	11/20/2012	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY	
	☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Eastern District of Texas - Sherman Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.);

DOCKET NO. 4:20-cv-333	DATE FILED 4/20/2020	U.S. DISTRICT COURT Eastern District of Texas - Sherman Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Dynabook, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,876,544	4/5/2005	KT Imaging USA, LLC
2 7,196,322	3/27/2007	KT Imaging USA, LLC
3 8,004,602	8/23/2011	KT Imaging USA, LLC
4 8,314,481	11/20/2012	KT Imaging USA, LLC
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading		
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT ORDER OF DISMISSAL WITH PREJUDICE. Before the Court is the Parties' Stipulated Motion for Dismissal With Prejudice. In accordance with the motion, the Court hereby ORDERS that (1) all claims asserted by Plaintiff in this action are dismissed WITH PREJUDICE, and (2) all attorney's fees, costs, and expenses are to be borne by the incurring party. Signed by District Judge Amos L. Mazzant, III on 5/21/2021.

CLERK <i>David A. O'Poole</i>	(BY) DEPUTY CLERK <i>Donna Bous</i>	DATE 5-21-21
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:20-cv-299	DATE FILED 4/20/2020	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Acer America Corporation and Acer Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,004,602	8/23/2011	KT Imaging USA, LLC
2 8,314,481	11/20/2012	KT Imaging USA, LLC
3		
4		
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT 7/14/2021 ORDER GRANTING Joint Motion to Dismiss WITH PREJUDICE (document 60)

CLERK Jeannette J. Clack	(BY) DEPUTY CLERK <i>J. Rivera</i>	DATE 7/14/2021
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:21-cv-01000	DATE FILED 9/28/2021	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Microsoft Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US6,876,544	4/5/2005	KT Imaging USA, LLC
2 US7,196,322	3/27/2007	KT Imaging USA, LLC
3 US6,590,269	7/8/2003	KT Imaging USA, LLC
4 US8,004,602	8/23/2011	KT Imaging USA, LLC
5 US8,314,481	10/20/2012	KT Imaging USA, LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:21-cv-01002	DATE FILED 9/28/2021	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Apple Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US7,598,580	10/6/2009	KT Imaging USA, LLC
2 US8,004,602	8/23/2011	KT Imaging USA, LLC
3 US7,196,322	3/27/2007	KT Imaging USA, LLC
4 US7,511,261	3/31/2009	KT Imaging USA, LLC
5 US8,314,481	11/20/2012	KT Imaging USA, LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:21-cv-01004	DATE FILED 9/28/2021	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Dell Technologies Inc. and Dell Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US6,876,544	4/5/2005	KT Imaging USA, LLC
2 US7,196,322	3/27/2007	KT Imaging USA, LLC
3 US8,004,602	8/23/2011	KT Imaging USA, LLC
4		
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

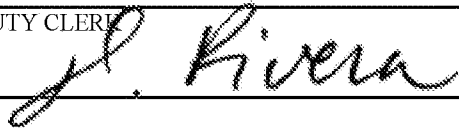
DOCKET NO. 6:21-cv-01000	DATE FILED 9/28/2021	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Microsoft Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US6,876,544	4/5/2005	KT Imaging USA, LLC
2 US7,196,322	3/27/2007	KT Imaging USA, LLC
3 US6,590,269	7/8/2003	KT Imaging USA, LLC
4 US8,004,602	8/23/2011	KT Imaging USA, LLC
5 US8,314,481	10/20/2012	KT Imaging USA, LLC

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT 1/24/2022 STIPULATION of Dismissal With Prejudice by KT Imaging USA, LLC (Document 14)
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CLERK Jeannette J. Clack	(BY) DEPUTY CLERK 	DATE 01/25/2022
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

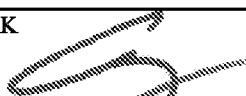
DOCKET NO. 6:21-cv-01004	DATE FILED 9/28/2021	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Dell Technologies Inc. and Dell Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US6,876,544	4/5/2005	KT Imaging USA, LLC
2 US7,196,322	3/27/2007	KT Imaging USA, LLC
3 US8,004,602	8/23/2011	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT 04/26/2022 Text Order GRANTING Motion to Dismiss Doc #28
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CLERK Jeannette J. Clack	(BY) DEPUTY CLERK 	DATE 04/26/2022
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Western District of Texas - Waco Divison on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00872	DATE FILED 8/22/2022	U.S. DISTRICT COURT Western District of Texas - Waco Divison
PLAINTIFF KT IMAGING USA, LLC		DEFENDANT ANKER INNOVATIONS LTD.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US8004602	8/23/2011	KT IMAGING USA, LLC
2 US8314481	11/20/2012	KT IMAGING USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court **Western District of Texas - Waco Divison** on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00874	DATE FILED 8/22/2022	U.S. DISTRICT COURT Western District of Texas - Waco Divison
PLAINTIFF KT IMAGING USA, LLC		DEFENDANT HANWHA TECHWIN CO., LTD.,
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US8004602	8/23/2011	KT IMAGING USA, LLC
2 US8314481	11/20/2012	KT IMAGING USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court **Western District of Texas - Waco Divison** on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00876	DATE FILED 8/22/2022	U.S. DISTRICT COURT Western District of Texas - Waco Divison
PLAINTIFF KT IMAGING USA, LLC		DEFENDANT REOLINK DIGITAL TECHNOLOGY CO., LTD.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US8004602	8/23/2011	KT IMAGING USA, LLC
2 US8314481	11/20/2012	KT IMAGING USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Western District of Texas - Waco Divison on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-00877	DATE FILED 8/22/2022	U.S. DISTRICT COURT Western District of Texas - Waco Divison
PLAINTIFF KT IMAGING USA, LLC		DEFENDANT SHENZHEN WANSVIEW TECHNOLOGY CO., LTD
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US8004602	8/23/2011	KT IMAGING USA, LLC
2 US8314481	11/20/2012	KT IMAGING USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Western District of Texas - Waco Division on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 6:22-cv-01026	DATE FILED	U.S. DISTRICT COURT Western District of Texas - Waco Division
PLAINTIFF KT IMAGING USA, LLC		DEFENDANT HANGZHOU HIKVISION DIGITAL TECHNOLOGY CO., LTD. and HIKVISION INTERNATIONAL CO., LIMITED
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US8004602	8/23/2011	KT IMAGING USA, LLC
2 US8314481	11/20/2012	KT IMAGING USA, LLC
3 US6876544	4/5/2005	KT IMAGING USA, LLC
4 US7196322	3/27/2007	KT IMAGING USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Southern District of New York on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 1:22-cv-8240	DATE FILED 9/27/2022	U.S. DISTRICT COURT Southern District of New York
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Axis Communications AB and Axis Communications, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,004,602	8/23/2011	KT Imaging USA, LLC
2 8,314,481	11/20/2012	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK RUBY J. KRAJICK	(BY) DEPUTY CLERK /s/ N. Dulal	DATE 10/3/2022
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK**

KT IMAGING USA, LLC,

Plaintiff,

v.

AXIS COMMUNICATIONS AB AND AXIS
COMMUNICATIONS, INC.,

Defendants.

Civil Action No.: 1:22-cv-8240-JPO

**NOTICE OF VOLUNTARY DISMISSAL WITH PREJUDICE PURSUANT TO
FEDERAL RULE OF CIVIL PROCEDURE 41(A)(1)(A)(I)**

Plaintiff KT Imaging USA, LLC hereby files this Notice of Voluntary Dismissal with Prejudice pursuant to Federal Rule of Civil Procedure 41(a)(1)(A)(i). According to Rule 41(a)(1)(A)(i), an action may be dismissed by the plaintiff without order of court by filing a notice of dismissal at any time before service by the adverse party of an answer. Accordingly, Plaintiff voluntarily dismisses this action against Defendants Axis Communications AB and AXIS Communications, Inc. with prejudice pursuant to Rule 41(a)(1).

Dated: October 3, 2022

Respectfully Submitted,

By: /s/ Dmitry Kheyfits

Dmitry Kheyfits

dkheyfits@kblit.com

New York State Bar No. 4743795

KHEYFITS BELENKY LLP

108 Wild Basin Road, Suite 250

Austin, TX 78746

Tel: 737-228-1838

Fax: 737-228-1843

Andrey Belenky
New York State Bar No. 4524898
abelenky@kblit.com
Hanna G. Cohen
hgcohen@kblit.com
New York State Bar No. 4471421
KHEYFITS BELENKY LLP
80 Broad Street, 5th Floor
New York, New York 10004
Tel. (212) 203-5399
Fax. (212) 203-6445

Attorneys for Plaintiff
KT Imaging USA, LLC

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document and all accompanying documents via the Court's CM/ECF system on October 3, 2022.

/s/ Dmitry Kheyfits

Dmitry Kheyfits

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Southern District of New York on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 1:22-cv-8240	DATE FILED 9/27/2022	U.S. DISTRICT COURT Southern District of New York
PLAINTIFF KT Imaging USA, LLC		DEFENDANT Axis Communications AB and Axis Communications, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 8,004,602	8/23/2011	KT Imaging USA, LLC
2 8,314,481	11/20/2012	KT Imaging USA, LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK RUBY J. KRAJICK	(BY) DEPUTY CLERK /S/ V. BRAHIMI	DATE 09/28/2022
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy