OF \$2720.00 10313598

PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE: NEW ASSIGNMENT

NATURE OF CONVEYANCE: ASSIGNMENT

CONVEYING PARTY DATA

	Name	Execution Date
Micro	Technology, Inc.	10/03/2008

RECEIVING PARTY DATA

Name:	Aptina Imaging Corporation			
Street Address:	Walker House, 87 Mary Street			
Internal Address:	George Town			
City:	Grand Cayman			
State/Country:	CAYMAN ISLANDS			
Postal Code: KY1-9002				

PROPERTY NUMBERS Total: 68

Property Type	Number
Application Number:	10313598
Application Number:	10360188
Application Number:	10388813
Application Number:	10427318
Application Number:	10455283
Application Number:	10615522
Application Number:	10649006
Application Number:	10651597
Application Number:	10740935
Application Number:	10754434
Application Number:	10841854
Application Number:	10851012
Application Number:	10857050
Application Number:	10912952

PATENT REEL: 023159 FRAME: 0424

500947989

Application Number:	10936900
Application Number:	10948505
Application Number:	10981011
Application Number:	10984701
Application Number:	10987260
Application Number:	11007979
Application Number:	11048180
Application Number:	11048479
Application Number:	11067451
Application Number:	11142166
Application Number:	11238461
Application Number:	11239851
Application Number:	11272400
Application Number:	11273990
Application Number:	11323693
Application Number:	11525282
Application Number:	11525428
Application Number:	11601346
Application Number:	11648456
Application Number:	11716863
Application Number:	11760990
Application Number:	11764307
Application Number:	11769248
Application Number:	11782779
Application Number:	11842345
Application Number:	11850135
Application Number:	11862650
Application Number:	11869806
Application Number:	11926687
Application Number:	11961208
Application Number:	11969246
Application Number:	11970006
Application Number:	11971461
Application Number:	12015595
Application Number:	12017458

Application Number:	12026641
Application Number:	12061806
Application Number:	12103800
Application Number:	12103816
Application Number:	12108002
Application Number:	12115022
Application Number:	12115045
Application Number:	12118022
Application Number:	12145789
Application Number:	12145794
Application Number:	12173896
Application Number:	12176760
Application Number:	12182375
Application Number:	12185395
Application Number:	12252565
Application Number:	11457956
Application Number:	11456784
Application Number:	11470657
Application Number:	11530574

CORRESPONDENCE DATA

Fax Number: (610)407-0701

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

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Email: sseiler@ratnerprestia.com

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Address Line 1: 1235 Westlakes Drive, Suite 301

Address Line 2: RatnerPrestia

Address Line 4: Berwyn, PENNSYLVANIA 19312

ATTORNEY DOCKET NUMBER:	APTN-00001	
NAME OF SUBMITTER:	Kenneth N. Nigon	

Total Attachments: 45

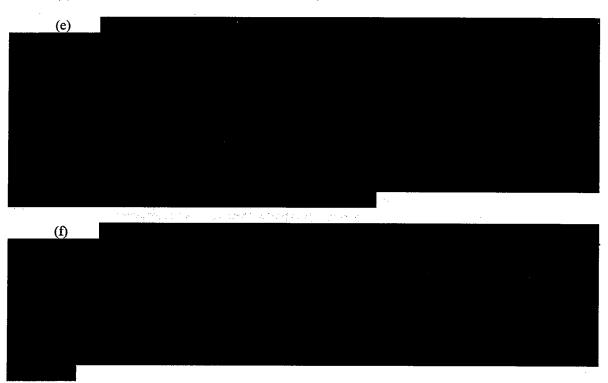
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PATENT ASSIGNMENT AGREEMENT

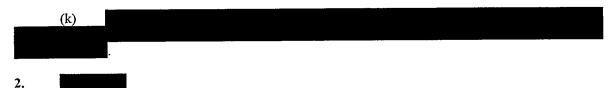
1. Definitions

- (a) "Agreement" shall mean this Patent Assignment Agreement.
- (b) "Assignee" shall mean **Aptina Imaging Corporation**, a Cayman Islands corporation with offices at c/o Citco Trustees (Cayman) Limited, Regatta Office Park, West Bay Road, Grand Cayman, Y1-1205, Cayman Islands.
- (c) "Assignor" shall mean **Micron Technology**, **Inc.**, a Delaware corporation with offices at 8000 South Federal Way, Boise, ID 83707.
 - (d) "Effective Date" shall mean October 3, 2008.



- (g) "Imaging Patents" shall mean those patents identified in ATTACHMENT "A" hereto, including, without limitation, all divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts thereof, and which may issue thereon or in connection therewith after the Effective Date of this Agreement.
- (h) "Imaging Patent Applications" shall mean those filed patent applications identified in ATTACHMENT "B" hereto, including, without limitation, all patents, divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts which may issue thereon or in connection therewith after the Effective Date of this Agreement.
- (i) "Semiconductor Patents" shall mean those patents identified in ATTACHMENT "D" hereto, including, without limitation, all divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts thereof, and which may issue thereon or in connection therewith after the Effective Date of this Agreement.

(j) "Semiconductor Patent Applications" shall mean those filed patent applications identified in ATTACHMENT "E" hereto, including, without limitation, all patents, divisions, continuations, continuations-in-part, reissues, reexaminations, and all foreign counterparts which may issue thereon or in connection therewith after the Effective Date of this Agreement.

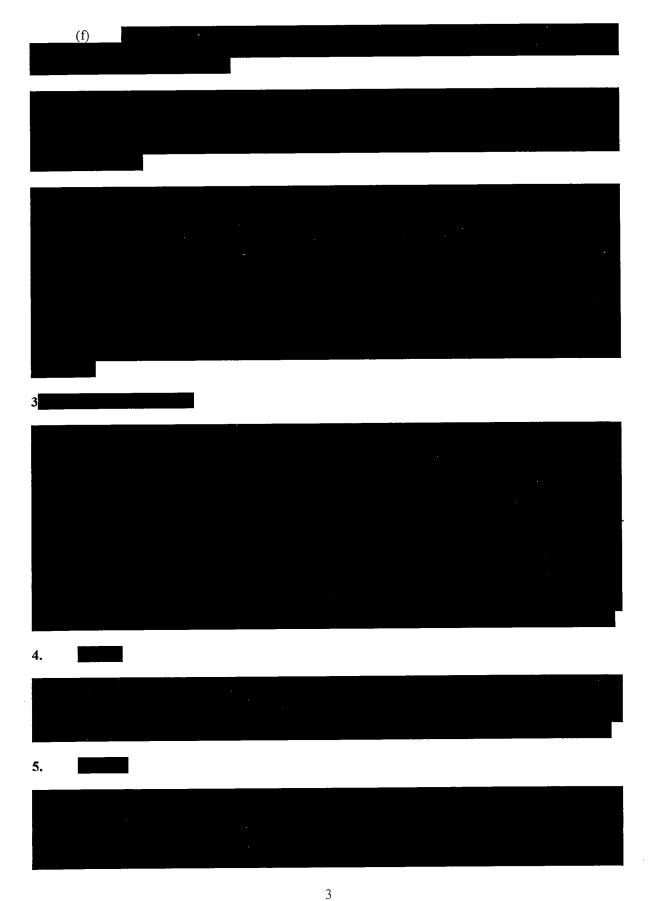


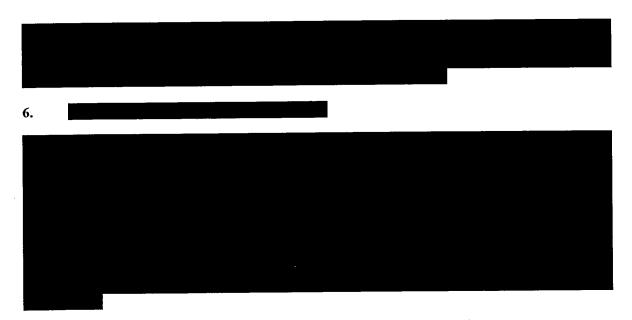
- (a) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Imaging Patents, including all rights to causes of action and remedies related thereto (including the right to sue for past, present or future infringement of rights related to the foregoing and the right to collect damages therefor). Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to issue the Imaging Patents to Assignee and to record assignment of the Imaging Patents to Assignee.
- (b) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Intellectual Property rights in the Imaging Patent Applications. Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to record assignment of the Imaging Patent Applications to Assignee.



- (d) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any, and subject further to the restrictions on the Semiconductor Patents set out below, Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Semiconductor Patents, including all rights to causes of action and remedies related thereto (including the right to sue for past, present or future infringement of rights related to the foregoing and the right to collect damages therefor). Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to issue the Semiconductor Patents to Assignee.
- (e) Subject to the terms and conditions of this Agreement, and subject to the rights of others existing as of the Effective Date of this Agreement if any,

 Assignor, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, hereby sells, assigns, and transfers to Assignee its entire right, title and interest in and to the Intellectual Property rights in the Semiconductor Patent Applications. Assignor hereby authorizes and requests the Commissioner of Patents of the United States, and any other official of the United States and any country foreign to the United States whose duty it is to issue or record patents, to record assignment of the Semiconductor Patent Applications to Assignee.





7. General

This Agreement shall be effective as of the Effective Date hereof and shall be binding on the respective heirs, assigns, representatives, and successors of Assignor and of Assignee.

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	Micron Technology, Inc.
	Signed: Signed:
	Date:
(4.11.)	_, personally appeared the above-named Skin B. Appleton mowledged to me that he did so of his own free will and in his Signed: My commission expires: 8/12///
REVIEWED NTI LEGAL	My commission expires: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Notarization State of Idaho County of Ada	Agreed to by: Aptina Imaging Corporation Signed: Jhonur J. Janr h. Date: 9/26/09 , 2008
Notarization State of Idaho County of Ada	
· ·	, personally appeared the above-named Through Laur, Jr.
who executed this Assignment in my presence and ack authorized capacity for the purposes set forth herein.	Signed: My commission expires: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will and in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will an in his signed: **Total Commission of his own free will be a signed: **Total Commission of his own free will be a signed: **Total Commission of his own free will be a signed: **Total
Think OF IO HOLDE	

Agreed to by:

[Signature page to the Patent Assignment Agreement]

ATTACHMENT "A"

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ATTACHMENT "B"

7

FILE NUMBER	Armen a la company	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NOWOLK	SEQUENCE	The State of the S	Application as lateral lateral	Apply \$5 p. Advisor, again, supplied to progression	
2006-1081:00/US	METHOD AND APPARATUS	Pending	United States of America		Jun 27, 2008
	PROVIDING RULE BASED AUTO EXPOSURE 144				
	TECHNIQUE PRESERVING SCENE DYNAMIC RANGE			La Tit	And the second s
2006-1086.00/US	AMPLIFIER CIRCUITS, IMAGER, SYSTEM AND METHOD OF OPERATION	Pending	United States of America	11835026	Aug 7, 2007
2006:1096:00/US	EMBEDDED CACHE IN IMAGE SENSORS	Pending	United States of America	12074446	Mar 3: 2008
2006-1103.00/PC	FUSED MULTI-ARRAY	Pending	PCT	PCTUS0872995	Aug 13, 2008
٠	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION	1			
	AND PHOTOMETER FUNCTIONALI	"			
2006-1103:00/TW	FUSED MULTISARRAY	Pending %	Taiwan R.O.C.		Aug 21 2008 0
	SENSOR WITH LEAVING THE SENSOR WITH LEAVING THE SENSOR PARALLE AND DETECTION		at the state of	pre-	
	AND PHOTOMETER FUNCTIONAL				
2006-1103.00/US	FUSED MULTI-ARRAY	Pending	United States of America	11842345	Aug 21, 2007
2000-1103.00/00					
2000-1103.50/00	SENSOR WITH INTEGRATED SUB-ARRAY				
2000-1103.00/00	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER	4			
2006-1404.00/h	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO/GUIDING	Pending	. llaitý	HM2007Ä000280	May 22, 2007
	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI	Pending	.ttaty		
	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO GUIDING STRUCTURE AND METHOD OFFORMING THE SAME PHOTON GUIDING	Pending	(taly) United States of America	RM2007A00028Q 11907271	May 22, 2007 Oct 10, 2007
2006-1104.00/N 2006-1104.00/US	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO GUIDINO STRUCTURE AND METHOD OFFORMING HE SAME PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME	Pending		11907271	
2006-1164-00/JT	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO GUIDING STRUCTURE AND METHOD OFFORMING THE SAME PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME METHOD AND AGEARATUS METHOD AND AGEARATUS FROVIDING MAGRIGGAUTO	Pending Pending	United States of America United States of America		Oct 10, 2007
2006-1104.00/N 2006-1104.00/US	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO: GUIDING STRUCTURE AND METHOD OFFORMING THE'SAME PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME METHOD AND AREARATUS PROVIDING IMAGING AUTO CFOCULE TULLEZING ABSOLUTE BRURNVALUE	Pending Pending Pending	Unitled States of America	11907271 11802748	Oct 10, 2007
2006-1104.00/N 2006-1104.00/US	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONAL! PHOTO GUIDING STRUCTORE AND METHOD OFFORMING HE'SAME PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME METHOD AND APEARATUS PROVIDING MAGING AUTO EOGLE STUTIEZING ABSOLUTE BURRYALUE METHOD AND APPARATUS BROVIDING SHARED PIXEL METHOD AND APPARATUS PROVIDING SHARED PIXEL	Pending Pending Pending		11907271	Oct 10, 2007
2006-1104-00/IT 2006-1104-00/US 2006-1105/00/US	SENSOR WITH INTEGRATED SUB-ARRAY FOR PARALLAX DETECTION AND PHOTOMETER FUNCTIONALI PHOTO GUIDING STRUCTURE AND METHOD OFFORMING THE SAME PHOTON GUIDING STRUCTURE AND METHOD OF FORMING THE SAME METHOD AND AGEARATUS METHOD AND APPARATUS	Pending Pending Pending	Unitled States of America	11907271 11802748	Oct 10, 2007

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•			LOOUNTDY MAKE	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE	STATUS	COUNTRY NAME	ALT CIOATION TOOLS	
	PIXELS WITH IMPROVED OPTICAL RESOLUTION AND METHODS OF OPERATING				
	THE SAME	A STATE OF THE STA	annone called remarks of season section (1987).	11979719	Nov 7, 2007
2006-1136.00/US	METHOD, SYSTEM AND APPARATUS TO BOOST PIXEL FLOATING DIFFUSION NODE VOLTAGE	Pending	: United States of America	10/0/07	
2006-1152.00/PC	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEL COMPONENTS	Pending	PCT	aan magaan ah aan ah	Jul 31, 2008
2006-1152:00/TW	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEU COMPONENTS	Pending	Talwan R.O.C.		Aug 22, 2008.
2006-1152.00/US	METHOD AND APPARATUS PROVIDING IMAGER PIXEL WITH SHARED PIXEL COMPONENTS	Pending	United States of America	11892516	Aug 23, 2007
.2006-1164-00/US	NOISE AND PARASITIC GAPACITANCE REDUCTION FOR 11 PIXEL CMOS	M	United States of America.	41764307 PCTUS2008003591	Jun 18, 2007 Mar 19, 2008
2006-1166.00/PC	CAPACITOR MULTIPLER CIRCUITS AND THE	Pending 🔩	POI	, 0.002000000	
	APPLICATIONS THEREOF TO ATTENUATE ROW-WISE TEMPORAL NOISE IN IMAGE SENSORS	I			
2906-1166.00/TW	CAPACITOR MULTIPLER	Pending	Tarwan R.O.C	09711243	Apr 3, 2008
A contract of	CIRCUITS AND THE APPLICATIONS THEREOF TO ATTENUATE ROW-WISE				er er
	TEMPORAL NOISE IN MAGI				
2006-1166.00/US	CAPACITOR MULTIPLER	Pending	United States of America	11696608	Apr 4, 2007
	CIRCUITS AND THE APPLICATIONS THEREOF TO ATTENUATE ROW-WISE TEMPORAL NOISE IN IMAGI SENSORS	E		nagel i viset i Supr viving "Petrokelika" 150 (((()))	
2006-1186:00/US	METHODS, SYSTEMS AND APPARATUSES FOR MODELING OPTICAL	Pending	United States of America	11898889	#S9D.1/ , ZUU/-

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	MAGES 2				EV TO THE RESERVE TO
2006-1190.00/PC	METHOD, APPARATUS, AND	Pending	PCT	gent net the second and a second as the second as	Jun 30, 2008
2000-1130.00/10	SYSTEM PROVIDING MULTI-COLUMN SHARED	•			
	READOUT FOR IMAGERS	76 - 24 - 2	United States of America	11882308	Jul 31, 2007
2006-1490.00/US	METHOD APPARATUS AND SYSTEM PROVIDING	rending	Ollier Dates Virginia		
3 T 10 T	MULTI-COLUMN SHARED READOUT FOR IMAGERS				
2006-1191.00/US	METHOD AND APPARATUS FOR REDUCING IMAGE	Pending	United States of America	11944933	Nov 26, 2007
	ARTIFACTS BASED ON APERTURE-DRIVEN COLOR				
	KILL WITH COLOR SATURATION ASSESSMENT				
2006-1241.00/US	GUIDED-MODE-RESOANCE	Communication of the Communica	United States of America	12115045	May 5, 2008
	TRANSMISSION COLOR -			ta de la companya de	
7	GENERATION IN CMOS IMAGE SENSORS				
2006-1268.00/PC	MICROELECTRONIC IMAGERS AND METHODS	Completed	PCT	PCTUS2008069511	Jul 9, 2008
	FOR MANUFACTURING SUCH MICROELECTRONIC				
	IMAGERS	and the second s	The second secon	288664462347 20 (2016)	Jul 12, 2007
200641268.00/SG.	IMAGE SENSOR PACAKGE WITHOUT SUBSTRATE	Pending	Singapore	2007051774	- State State Control of State
2006-1268.00/TW	MICROELECTRONIC IMAGERS AND METHODS	Pending	Taiwan R.O.C.	097126545	Jul 11, 2008
	FOR MANUFACTURING				
	SUCH MICROELECTRONIC IMAGERS	The second of th	en en mente en	***************************************	Ava 34 2007
2006-1268.00/US;-1	MIGROELECTRONIC	Pending	United States of America	11849062	A98-012000 # 1
	FOR MANUFACTURING SUCH MICROELECTRONIC				A Company of the Comp
	IMAGERS		PCT		May 8, 2008
2006-1285.00/PC	METHOD AND APPARATUS FOR IMAGE EXPOSURE	renaing		•	•
	CORRECTION METHOD/AND/APPARATUS	Pending	Talwan R.O.C		May/22) 2008
2006-1285:00/TW	FORUMAGE EXPOSURE CORRECTION				
	COMMONON ASSOCIATION			\$4.9 ABC 2000000 0000000000000000000000000000	

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FILE NUMBER	TITLE CONTROL OF THE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	FOR NON-OPTICAL PIXEL SELF TEST				auminimus manorimus (CCC) (1997) (hay Nebestal Periode (1977) (1977) (1977) (1977)
2006-1368 00/US	NAVIGATION ASSISTED MOSAIC PHOTOGRAPHY	Pending.	United States of America	11850135	Sep 5, 2007.
2000100310105	A METHOD FOR IDENTIFICATION OF ABERRANT PIXELS IN AN IMAGE SENSOR BASED ON INCONSISTENT SIGNAL LEVELS FROM THE FLOATING DIFFUSION AND THE MAIN PHOTODIODE	Pending	United States of America	11970006	Jan 7, 2008
court of the court	USE OF HIGHLY MÜLT PLEXED RIXEL STRUCTURE IN 30 BACKSIDE JELUMINATED IMAGE SENSOR	Pending	Unlied States of America	12015595	Aug 15, 2008
2000-101 110-11	APPARATUS, SYSTEM AND METHOD PROVIDING BACKSIDE ILLUMINATED IMAGING DEVICE	Pending	PCT		Aug 24, 2007
	APPARATUS, SYSTEMAND METHOD PROVIDING BACKSIDE ILLUMINATED IMAGING DEVICE	Pending:	United States of America	11892640	
	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	PCT	PCTUS2008004947	Apr 17, 2007
2006-1375.00/TW	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	Telwan R.O.C	097117866	May 15:2008 Jun 11, 2007
2006-1375.00/US	COLOR CORRECTING FOR AMBIENT LIGHT	Pending	United States of America	11760990	and the second of the second s
2006-1382.00/FC	AMETHOD FOR IMPROVING ELECTRICAL CROSSTALK ANDISENSITIVITY BY PERFORMING OUT OF SPECIFIC DEEP PWELL AS ORTHINZATION	Pending	PCT 1	FOTU\$2008073849 du ⇒ 3-2	Aug 21 2008
2006-1382.00/US	A METHOD FOR IMPROVING ELECTRICAL CROSSTALK AND SENSITIVITY BY PERFORMING COLOR SPECIFIC DEEP P WELL OPTIMIZATION	Pending	United States of America	11926687	Oct 29, 2007

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	ATITLE SALES SALES SALES	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER		Rending	United States of America	11961208	Dec 20, 2007
2006-1384:00/US	GREEN AND MAGENTA PIXELS AND METHOD				
42	THEREOF		PCT	PCTUS2008005586	May 1, 2008
2006-1386.00/PC	SOLID STATE OPTICAL MOTION COMPENSATION	Pending	The second secon		Jun 4.2008
2006-1386-00/TW	SOLID STATE OFFICAL MOTION COMPENSATION	Pending	Talwan R.O.C		
2006-1386.00/US	SOLID STATE OPTICAL MOTION COMPENSATION	Pending	United States of America	11782779	Jul 25, 2007
2006-1387:00/US	INTEGRATED OPTICAL CHARACTERISTICS	Pending	United States of America	11832822	Aug 2:2007
	MEASUREMENT CMOS				
2006-1388.00/US	CONSTRUCTION METHODS FOR BACKSIDE	Pending	United States of America	11971461	Jan 9, 2008
	ILLUMINATED IMAGE SENSORS				
72006=1394:00/US	A METHOD, APPARATUS	iPending	United States of America	11987869- ,	Dec 5, 2007
	AND SYSTEM FOR IMAGE STABILIZATION USING A SINGLE PIXEL ARRAY	44.			
2007-0056.00/PC	METHOD OF FORMING A	Pending	PCT	property and property of the second s	Jun 24, 2008
	MICROLENS ARRAY AND IMAGING DEVICE AND SYSTEM CONTAINING				
	SUCH A MICRONLENS ARRAY				,
2007-0056.00/TW	METHOD OF FORMING A	Pending	Taiwan R.O.C.		≜ Jul.23, 2008
	MICROLENS ARRAY AND MAGING DEVICE AND				
	SYSTEM CONTAINING SUCH A MICRONLENS			4	
2007-0056.00/US	ARRAY METHOD OF FORMING A	Pending	United States of America	11882065	Jul 30, 2007
2007-0000101	MICROLENS ARRAY AND IMAGING DEVICE AND				
•	SYSTEM CONTAINING SUCH A MICRONLENS				
2007-0060:00/US	ARRAY APPARATUSES AND	Pending	r United States of America	11978602	Oct 30, 2007 ₈ .
	METHODS FOR PROVIDING OFFSET COMPENSATION				
	FOR AN OPERATIONAL			FOR THE COURT TO SEE THE PROPERTY OF THE PORTAGE	anni Birtherico de comenzar de dell'influence compressione in a compressione de compressione de l'influence de

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
2007-0105.00/US	ANTI-RESONAT: REFLECTING OPTICAL WAVEGUIDE FOR IMAGER:	Pending	United States of America 7	11984623	Nov.20, 2007
2007-0128.00/US	LIGHT PIPE* METHODS AND APPRATUSES FOR SHARPENING IMAGES	Pending	United States of America	12052305	Mar 20, 2008
2007-0136,00/PC	IMAGERS WITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending , , ,	PCT		7.Jin 31, 2008
2007-0136.00/TW	IMAGERS WITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending	Talwan R.O.C.		Jun 11, 2008
2007-0136:007US	IMAGERSWITH HIGH SPEED DIGITAL FRAME TRANSFER AND FRAME PROCESSING	Pending	United States of Americal	11763512 	. jun 15, 2007
2007-0144.00/PC	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	PCT	PCTUS2008074191	Aug 25, 2008
,2007-0144.00/TW	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	Taiwan R.O.C		Sep 18, 2008
2007-0144.00/US	DYNAMIC ADAPTIVE COLOR FILTER ARRAY	Pending	United States of America	11862650	Sep 27, 2007
2007-0145/00/US	METHODS AND APPARATUS FOR ELAT REGION IMAGE FILTERING	Pending.	United States of America	.12222215	(Aug.5/2008)
2007-0157.00/US	METHOD, APPARATUS AND SYSTEM FOR A LOW POWER IMAGER DEVICE	Pending	United States of America	11889694	Aug 15, 2007
2007-0156 00/US	SEMICONDUCTOR USTRUCTORES, WITH DUAL ISOLATION STRUCTURES, METHODS FOR FORMING	Pending P	United States of America	12027697	Feb.7/ 2008
	SAME AND SYSTEMS				
2007-0159.00/US	SAME AND SYSTEMS INCLUDING SAME METHOD AND APPARATUS FOR BREAKING SURFACE TENSION DURING A RECESSED COLOR FILTER ARRAY PROCESS	Pending	United States of America	12047960	Mar 14, 2008

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		Openius and the second	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE	STATUS	Established to Carthidate Congress		Jul 24, 2008
2007-0313.00/TW	THIN SEMICONDUCTOR DIE PACKAGES AND ASSOCIATED SYSTEMS AND METHODS	Pending	Talwan R.O.C.	097128162	
2007-0313.00/US	THIN SEMICONDUCTOR DIE PACKAGES AND ASSOCIATED SYSTEMS AND METHODS	Pending	United States of America	11861143	Sap:25, 2007
2007-0343.00/US	PROGRAMMABLE MEMORY APPARATUS, SYSTEMS, AND METHODS	Pending	United States of America	12049048	Mar 14, 2008
2007-0349-00/US	METHOD AND APPARATUS FOR COMBINING MULTI-EXPOSURE (MAGE DATA	Pending	United States of America	11896439	Aug 31; 2007
2007-0358.00/US	A CAMERA SYSTEM ON-CHIP FOR MULTIPLE OBJECT TRACKING AND IDENTIFICATION	Pending	United States of America	11869806	Oct 10, 2007
2007-0369.00/US	METHODS AND APPARATUSES PROVIDING COLORFILTER PATTERNS ARRANGED TO REDUCE CROSSTATIKIN IMAGE SIGNALS	Rending	United Slates of America	(2010620)	Jan 28: 2008
2007-0370.00/US	METHODS AND SYSTEM FOR DIGITALLY STABILIZING VIDEO CAPTURED FROM ROLLING SHUTTER CAMERAS	Pending	United States of America	12004056	Dec 20, 2007
2007-0371 00/US	IMAGEISTABILIZATION DEVICE AND METHOD		United States of America	12056185	Dec 21, 2007. Mar 25, 2008
2007-0391.00/US	SYSTEMS, METHODS, AND DEVICES FOR PREVENTING SHOOT-THROUGH CURRENT WITHIN AND BETWEEN SIGNAL LINE DRIVERS OF SEMICONDUCTOR DEVICES		United States of America	12050105	
2007'0412:00/US	BIASING APPARATUS SYSTEMS, AND METHODS		United States of America United States of America	11867313 11873314	Oct 4, 2007
2007-0428.00/US	METHOD AND APPARATUS FOR CONTROLLING DUAL CONVERSION GAIN SIGNAL	Pending	Simon Sunto Si randina		

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FILE NUMBER	(TITLE: A Section 1997)	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NOWIBER	IN IMAGING DEVICES	ALAST CARE THE STREET	and the second section of the section of the second section of the section of the second section of the section of th		and a second of the second of
2007-0429.00/US	METHOD AND ARPARATUS	Pending	United States of America	11942771	Nov 20, 2007
	FOR CONTROLLING ANTI-BLOOMING TIMING TO		Transfer of the		
	REDUCE EFFECTS OF A DARK CURRENT.		Late Control	11966642	Dec 28, 2007
2007-0441.00/US	EMI SHIELDING FOR IMAGER DEVICES	Pending	United States of America		The state of the s
2007-0462.00/US	METHOD AND APPARATUS FOR REDUCING MOTION BLUR IN DIGITAL IMAGES	Pending	United States of America	12046860	Mar 12, 2008
2007-0486.00/US	METHODS, SYSTEMS AND APPARTUSES USING	Pending	United States of America	11976301	Oct 23, 2007
	BARRIER SELF-CALIBRATION FOR HIGH DYNAMIC RANGE IMAGERS				
2007-0498.00/US	METHOD AND APPARATUS	Pending	United States of America +	12216433	Jul 3, 2008
	PROVIDING MULTIPLE EXPOSURE HIGH DYNAMIC RANGE SENSOR				
2007-0503.00/US	GRAVITY AND PRESSURE	Pending	United States of America	12017458	Jan 22, 2008
	ENHANCED REFLOW PROCESS TO FORM MINI		. * * i		
2007-0508.00/US	LENS	Pending:	United States of America	Contract to	Feb 6, 2008
	TO ACHIEVE PREFERRED IMAGER COLOR				
2007-0510.00/US	REPRODUCTION: ENCAPSULATED IMAGER	Pending	United States of America	12007778	Jan 15, 2008
13 "	PACKAGING	Pending	United States of America		Apř 11, 2008
2007-0515:00/US	METHOD AND APPARATUS PROVIDING DYNAMIC BOOSTED CONTROL	Eatining		100	
	SIGNAL FOR A PIXEL	_	United States of America	11976404	Oct 24, 2007
2007-0519.00/US	LENS, A LENS ARRAY AND IMAGING DEVICE AND	Pending	Dilling States of Militarios	110.010	
	SYSTEM HAVING A LENS, AND METHOD OF FORMING THE SAME	3			and the second s
2007-0537:00/US	DUAL CONVERSION RATE	Pending	United States of America	11892111	Aug 20, 2007
	VOLTAGE BOOSTER* APPARATUS AND METHOD				

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		COTATO CONTRACTOR CONTRACTOR	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE	STATUS			(4) 自分 申 (1) 「中では自分の値」を示す。 とうしょうじゅう (4) 中央を主じる。
	SYMMETRICAL OPTICS		**************************************	12120052	May 13, 2008
.2007-0763.00/US	METHODS AND SYSTEMS FOR INTENSITY MODELING INCLUDING POLARIZATION	Pending .	United States of America	12120002	
2007-0768.00/US	METHOD AND APPARATUS	Pending	United States of America	12114354	May 2, 2008
2007-0766.00103	PROVIDING ANALOG ROW NOISE CORRECTION AND HOT PIXEL FILTERING	, ,			
2007-0794:00/US	EMI SHIELDING METHOD	Pending	United States of America	12116788	May 7, 2008
	FOR CHIP SCALE IMAGER: PACKAGE				
2007-0799.00/US	APPARATUS, METHOD, AND SYSTEM PROVIDING PIXEL HAVING INCREASED FILL FACTOR	Pending	United States of America	12149607	May 5, 2008
200740803:00/US	START-UP CIRCUIT FOR	Pending	United States of America	12026641	Feb.6, 2008
2003000000	SMIA INPUT CLOCK BUFFER	"The company of Automotive contract of a contract of the contr	United States of America	12146306	Jun 25, 2008
2007-0847.00/US	IMAGING MODULE WITH SYMMETRICAL LENS	Pending	Onlied States of Arrience	12140000	3023 , 3 3
	SYSTEM AND METHOD OF MANUFACTURE				
2007/0910.00/US	METHOD AND APPARATUS		United States of America	12149723	May 7, 2008
	FOR IMAGE STABILIZATION USING MULTIPLE IMAGE				
	CAPTURES METHOD AND APPARATUS	Pending	United States of America	TAS ASSESSMENT OF THE PROPERTY OF THE PARTY	Jun 11, 2008
2007-0912.00/US	FOR REDUCING TEMPORAL ROW-WISE NOISE IN IMAGERS				
2007-0922:00/US	LENS CLEANING WARNING	Pending -	United States of America -	12118022	- May 9 , 2008
	SYSTEM ON CAMERAS ERS DIGITAL CAMERAS XE	Pending	United States of America	12182375	Jul 30, 2008
2007-0926.00/US	FLASH SYNC "TO MIDDLE OF FRAME" USED IN COMBINATION WITH DIGITAL ZOOM	rending		÷	
2007-0940:00/US	METHOD AND APPARATUS	Pending	United States of America	12155455	Jun 4, 2008
	FOR PROVIDING A				
	FINTERCONNECT LAYER IN AN IMAGER DEVICE	500			
2007-0944.00/US	METHOD AND APPARATUS PROVIDING SMOOTHING IN	Pending	United States of America	12155308	Jun 2, 2008

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	A VIDEO STABILIZATION SYSTEM	The state of the s	Section 2019 - 20 Marie 20 Miles		
2007-0945 00/US	METHOD OF CAPTURING HIGH DYNAMIC RANGE IMAGES WITH PEOPLE IN THE SCENE: 1	Pending	United States of America	12115022	May 5, 2008
2007-0950.00/US	ANTI-BLOOMING PROTECTION OF PIXELS IN A PIXEL ARRAY FOR MULTIPLE SCALING MODES		United States of America	12155531	Jun 5, 2008
2007-0959:00/US	METHOD OF FORMING A RERMANENT CARRIER AND SPACER WAFER FOR A WAFER LEVEL OF TICS AND ASSOCIATED STRUCTURE		United States of America -	12073998	
2007-0960.00/US	METHOD AND APPARATUS PROVIDING UNIFORM SEPARATION OF LENS WAFER AND STRUCTURE BONDED THERETO	Pending	United States of America	12153074	May 13, 2008
2007-0971:00/GB	METHOD AND APPARATUS PROVIDING PERSECTIVE CORRECTION AND/OR MAGE DEWARRING	N.	United Kingdomy	(08131245	JUI 17: 2008 Aug 20, 2008
2007-0971.00/US	METHOD AND APPARATUS PROVIDING PERSPECTIVE CORRECTION AND/OR IMAGE DEWARPING	Pending	United States of America	non on our design and another property of the control of the contr	3.800,00000000
2007-0972.00/US	DUAL BUFFER SYSTEM FO IMAGE PROCESSING	R Pending	United States of America	12234723	Sep 22, 2008 Sep 22, 2008
2007-0988.00/US	SYSTEM, METHOD, AND APPARATUS FOR VARIABLE RATE PIXEL DATA TRANSFER AND STORAGE	Pending E	United States of America	12234725	
2007-0895:00/US	METHOD AND SYSTEM FOR MOTION ESTIMATION IN DIGITAL MAGING (2) APPLICATIONS		Unifed States of America	12125425	May 22, 2008
2007-0996.00/US	METHOD AND APPARATUS PROVIDING SINGLET WAFER LENS SYSTEM WIT FIELD FLATTENER		United States of America		
2007-1001.00/US	IMAGE NOISE LEVEL	Pending	United States of America	12103800	ADI 10.2006

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10.	ESTIMATION FROM JPEG		,		
2007-1006.00/US	METHOD AND APPARATUS FOR REDUCING COLOR MATERIAL RELATED DEFECTS IN IMAGERS	Pending	United States of America	generossangen generom. Der propriet in der hill hill strongen	Jun 18, 2008
2007-1007-00/US	LOW-POWER COLUMN PARALLEL CYCLIC ANALOG-TO-DIGITAL CONVERTER	Pending		.12145620	Jun 25, 2008 - Jul 1, 2008
2007-1087.00/US	OVER-MOLDED GLASS LENSES AND METHOD OF FORMING THE SAME	Pending	United States of America		
2007-1109.00/US	METHODIAND APPARATUS PROVIDING 15 PRE-DISTORTED SOLID STATE IMAGE SENSORS FOR LENS DISTORTION 35 COMPENSATION	(Fending	United States of America	12119242	May 12, 2008
2007-1110.00/US	METHOD AND APPARATUS TO FORM LENSES OF LENS	Pending	United States of America	12103816	Apr 16, 2008
	MASTERS USING STEP-AND-REPEAT PIN MOLDING PROCESS	·		the the amount of the control of the	on a section of the s
.2007-11147.007US	STEP-AND-REPEAT PIN	Panding		12173896 91	'Jul':16,2008
2007-11147-00/US 2007-1145-00/US	STEP-AND-REPEAT PIN MOLDING PROCESS COMPARATOR CONTROLLED CHARGE FUMP FOR NEGATIVE	Pending Pending	United States of America	12173896	Jul 1, 2008
	STEP-AND-REPEAT PIN MOLDING PROCESS COMPARATOR CONTROLLED CHARGE PUMP FOR NEGATIVE WETHOD AND APPARATUS FOR CHIEF RAY ANGLE CORRECTION USING A	Pending	United States of America	12166077	Jul 1, 2008
2007-1145.00/US	STEP-AND-REPEAT PIN MOLDING PROCESS COMPARATOR CONTROLLED CHARGE FUMF FOR NOR STEP WITH FOR THE PROCESS OF THE	Pending Closed	United States of America United States of America United States of America	12166077 12173327	Jul 1, 2008 Jul 15, 2008
2007-1145.00/US 2007-1167-00/US	STEP-AND-REPEAT PIN MOLDING PROCESS COMPARATOR CONTROLLED CHARGE PUMB FOR NEGATIVE VOITAGE BOOSTER METHOD AND APPARATUS FOR CHIEF RAY ANGLE CORRECTION USING A DIFFRACTIVE LENS STEPAGE ARCHITECTURE FOR PROGRAMMABLE SHARING OFFECATION DIFFUSION NODE METHOD AND APPARATUS FOR LOW COST MOTION	Pending Obsed Pending	United States of America	12166077 12173327	Jul 1, 2008

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	PROVIDING AN IMAGER WITH A SHARED POWER	I Establish of the state of process of the Sections			
	SUPPLY AND READOUT LINE FOR PIXELS				\$2.52.4 0.5.500
2008-0065.00/US	METHOD AND APPARATUS FOR CALIBRATING AND CORRECTING SHADING!	Pending :	United States of America	.12[45794	dun-25, 2008
	NON-UNIFORMITY OF CAMERA				je voje
2008-0079.00/US	MICROELECTRONIC IMAGER PACKAGES WITH COVERS HAVING NON-PLANAR SURFACE FEATURES	Pending	United States of America	12173658	Jul 15, 2008
2008-0082100/US	METHOD AND APPARATUS FOR MOTION COMPENSATED PRE-FILTERING	Pending	United States of America	12145789	dun 25, 2008
2008-0124.00/US	METHOD AND APPARATUS FOR EXTENDED DEPTH OF FIELD IMAGE RESTORATION	Pending	United States of America	12128234	May 28, 2008
2008-0127.00/US	EXTENDED. DEPTH-OF-FIELD, LENSES. AND METHODS FOR THEIR DESIGN: OPTIMIZATION. AND MANUFACTURING	Panding	United States of America	12167741	Jul 3: 2008:
AVGO-0001.00/EP	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	Pending	European Patent Office	020030516	Feb 12, 2002
AVGQ-0001.00/JP.**	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Alxels/During Analog-to-Digital Conversion	Pending	Japan	2002103188	Apř. 6, 2002
AVGO-0001.00/US	System and Method for Correcting Erroneous Image Signals From Defective Photosensitive Pixels During Analog-to-Digital Conversion	Pending	United States of America	09827942	Apr 6, 2001
AVGO-0002.00/US	Apparatus and Melhod for Generating Multi-Image	Pending	United States of America	10011155	Dec 6, 2001

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		COTATUO COMPONENTA COMPONENTA	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE	STATUS			
	Scenes With a Camera		Taiwan R.O.C.	93136854	Nov 30, 2004
AVGO-0006.00/TW	Cam-locking positioning mechanism	Pending	I alwait IV.O.O.		
AVGO-0006.00/WO	Cam locking positioning	Abandoned	PCT.	PCTUS2005020786	Jun 13, 2005
	mechanism	Pending	United States of America	12185395	Aug 4, 2008
AVGO-0006.01/US	Cam-locking positioning mechanism	LouiniA		**************************************	2un 27 2007
AVG0:0007.00/US	Image Blur Reduction Using Dual Cameras x	Pending	United States of America	11769248	
AVGO-0008.00/JP	Auto Focus Auxiliary Light	Pending	Japan	2006214490	Aug 7, 2006
AVGO-0009:00/CN	METHOD AND SYSTEM FOR	Pending	Ghina .	2004800372297	Dec.14, 2004
	WAVELENGTH-DEPENDENT				
	USING A HYBRID FILTER				Dec 14, 2004
AVGO-0009.00/DE	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT	Pending	Germany	'	
	IMAGING AND DETECTION USING A HYBRID FILTER				en en som men en e
AVG0-0009.00/EP	A METHOD AND SYSTEM FOR	Pending	European Palent Office	048144588	Dec.14, 2004.
	WAVELENGTH-DEBENDENT IMAGING AND DETECTION USING A HYBRID FILTER				
			Spain -		Dec 14, 2004
AVGO-0009.00/ES	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT	Pending	Opani -		
	IMAGING AND DETECTION USING A HYBRID FILTER			The state of the s	
AVGO-0009.00/FR	METHOD AND SYSTEM FOR	Pending	France		Dec 14, 2004
	WAVELENGTH DEPENDENT MAGING AND DETECTION				18
	USING A HYBRID FILTER	_	United Kingdom		Dec 14, 2004
AVGO-0009.00/GB	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT	r Penaing	Ottled Mildani		
	IMAGING AND DETECTION USING A HYBRID FILTER				
AVG0-0009:00/HK	METHOD AND SYSTEM EO	R. Pending	Hong Kong	11071086008	Aug-7, 2007
	WAVELENGTH-DEPENDEN IMAGING AND DETECTION				
	USING A HYBRID FILTER IN	Dandler	Italy		Dec 14, 2004
AVGO-0009.00/IT	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDEN	renang T	imij		
	IMAGING AND DETECTION USING A HYBRID FILTER				

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVG0-0009/00/JP	METHOD AND SYSTEM FOR	Pending	Japan	2006545435	Dec14, 2004
	IMAGING AND DETECTION : USING A HYBRID FILTER		Republic of Korea	20067012167	Dec 14, 2004
AVGO-0009.00/KR	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Petraing	Topublic of Toron		· · · · · · · · · · · · · · · · · · ·
AVG0-0009/00/SG	METHOD AND SYSTEM FOR WAVELENGTH DEPENDENT MAGING AND DETECTION USING A HYBRIDIFILTER	Abandoned	Singapore	2006036495	Dec 14-2004
AVGO-0009.00/WO	METHOD AND SYSTEM FOR WAVELENGTH-DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Completed	PCT	PCTUS2004042279	Dec 14, 2004
AVGO-0009.02/US	METHOD AND SYSTEM FOR WAYELENGTH DEPENDENT IMAGING AND DETECTION USING A HYBRID FILTER	Rending	United States of America	12145098	Jun 24, 2008
AVGO-0011.01/JP	METALLIC OPTICAL BARRIER FOR PHOTO-DETECTOR ARRAY IS ALSO INTERCONNECTING ELECTRODE	Pending	Jepan .	2005153680	Apr 23, 2001
AVGO-0013.00/EP	HYSTERESIS IN IMAGE PROCESSING ALGORITHMS	Pending.	European Patent Office Japan	020017042	Jan 24, 2002 Mar 20, 2002
AVGO-0013.00/JP	HYSTERESIS IN IMAGE PROCESSING ALGORITHMS	 The second of the second of the	om communication of the second se	2003049158	Fab/26/2003
AVGO-0014 00/JP	TELECENTRIC SINGLET "HAVING A SMALL HEIGHT" "REQUIREMENT"	Bending	Japan		10.0003
AVGO-0015.00/JP	Solid state image sensor array for correcting curvilinear distortion of a camera lens system and method for fabricating the image sensor array	Pending	Japan	2002363626	Dec 16, 2002
AVGG-0015.00/US	Solidistate image sensor array for correcting custilinear distortion of a camera lens system and method for fabricating the image sensor	Abandored *	United States of America	10062695	i Jun 31 2002

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	array			101529139	Oct 26, 2001
AVGO-0016:00/DE	INTEGRATED CIRCUIT METALLIZATION USING A TITANIUM/ALUMINUM ALLOY	Pending	Germany		Gct/24, 2001
AVG0:0016:00/JP	INTEGRATED CIRCUIT SEMENTALLIZATION USING AVERTICAL UMINUM SEMENTAL UMINUM SEMENTAL UMINUM SEMENTALLOY	Abandoned	Japan	2001326119	
AVGO-0016.01/JP	INTEGRATED CIRCUIT METALLIZATION USING A TITANIUM/ALUMINUM ALLOY	Pending	Japan :	2006250729	Oct 24, 2001
AVG0-0017.00/DE	METHOD FOR REDUCING COHERENT ROW WISE AND COLUMN WISE FIXED PATTERN NOISE IN CMOS IMAGEISEN SORS	Pending 2	Germany	(02998895	Aug 29: 2002
AVGO-0017.00/JP	METHOD FOR REDUCING COHERENT ROW-WISE AND COLUMN-WISE FIXED PATTERN NOISE IN CMOS IMAGE SENSORS	Pending)	Japan	2002269618	Sep 17, 2002
AVGO-0019:00/EP	TWO-COLOR PHOTO-DETECTIOR AND METHODS FOR: DEMOSAICING A: TWO-COLOR: PHOTO-DETECTOR ARRAY	Pending:	European Palent Office	020227062	Qct 10, 2002
AVGO-0019.00/JP	TWO-COLOR PHOTO-DETECTOR AND METHODS FOR DEMOSAICING A TWO-COLOR	Pending	Japan	2003016619	Jan 24, 2003
AVGO-0020.00/US	PHOTO-DETECTOR ARRAY On-Chip Array Test System For Image Sensors 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Pending	United States of America	020017059	Dec 28, 2006):
AVGO-0021.00/EP	CORRECTION METHOD AN SYSTEM				75.
AVG0:0021:00/JP	DEFECTIVE PIXEL CORRECTION METHOD AN SYSTEM	Pending:	Japan,	2002103422	Approximation

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUI	The state of the s
AVGO-0021.01/US	DEFECTIVE PIXEL CORRECTION METHOD AND SYSTEM	Pending)	United States of America	11729535	Mar 29, 2007
/AVGO-0023.00/US	Method And Apparatus For Programmably Setting A Sampling Delay in Ah Image Sensor Device	Pending	United States of America	11456784	Jul 11,2006

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	TITLE: 52 - Mile J. Ko	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	· 「大道衛軍」を開い、14年 14年 14年 1		European Patent Office	078369121	Aug 15, 2007
AVGO-0025.00/EP	Method And Apparatus For Suppressing Noise In Image Sensor Devices	Pending	Ediopean Patent Office		and the second s
AVGO-0025.00/PG	Method And Apparatus For- Suppressing Noise In Image Sensor Devices 2	Pending.	PCT	PCTUS2007018156	Aug 15.2007
AVGO-0025.00/TW	Method And Apparatus For Suppressing Noise in Image Sensor Devices	Pending	Taiwan R.O.C.	096131105	Aug 22, 2007
AVG@-0025.00/US	Method And Apperatus For Suppressing Noise In Image Sensor Devices	Pending	United States of America	31470657	Sep.7, 2006
AVGO-0026.00/EP	DIGITAL IMAGE SYSTEM AND METHOD FOR IMPLEMENTING AN ADAPTIVE DEMOSAICING METHOD	Pending	European Patent Office	020099594	May 3, 2002
AVG0-0026-00/JF	DIGITAL MAGE SYSTEM AND METHOD FOR HIMPLEMENTING AN ADAPTIVE DEMOSACIONS METHOD	Pending	Jepan: " ↓	2002247617	Aug 27, 2002 :+
AVGO-0027.00/JP	System Solution For Amorphous LAG Problem	Pending	Japan	2001307448	Oct 3, 2001
AVGG:0027:00/US	System Solution For Amorphous LAG Problem	Abendoned	United States of America	09678951	Oct 3, 2000
AVGO-0028.00/EP	SOCKETABLE FLEXIBLE CIRCUIT BASED ELECTRONIC DEVICE MODULE AND A SOCKET FOR THE SAME	Pending	European Patent Office	020130118	Jun 12, 2002
AVG0-0028 00/JP	FSOCKETABLE FLEXIBLE GIRCUIT/BASED ELECTRONIC/DEVICE MODULE AND A SOCKET FOR THE SAME	Allowed	Japen	2002219387	Jul 29: 2002
AVGO-0029.00/DE	Image Sensor Having Integrated Electrical Optical Device And Related Method	Pending	Germany	1020050165648	Apr 11, 2005
AVGO:0028/00/JP	Image Sensor Having Integrated Electrical Optical Device And Related Method	Rending .	(Japan	P2005240926	Aug 23, 2005
AVGO-0029.00/TW	Image Sensor Having	Pending	Taiwan R.O.C.	94105016	Feb 21, 2005

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			CONTINUES NAME OF THE PARTY OF	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE	STATUS	COUNTRY NAME	A THE CANON TO THE	
	Integrated Electrical Optical Device And Related Method				
AVGO-0029.01/US	Imaga Sansor Having	Pending	United States of America	11969246	Jan 4, 2008
AVGU-0029 0 1/US	Integrated Electrical Optical Device And Related Method				
AVGO-0031.00/JP	AVALANCHE PHOTODIODE	Abandoned	Japan	2002151870	May 27, 2002
AVGO-0031.00/0F	ARRAY BIASING DEVICE				
	PHOTODIODE STRUCTURE	The state of the s	and the second s		⊬Aug 40. 2005
AVGO-0034.00/CN	Multi-magnification color	Pending	China	2005800359403	Adjust 2000
AVGO-0034.00/EP	Image sensor Multi-magnification color	Pending	European Patent Office	057843591	Aug 10, 2005
AVGU-0034.00/EF	image sensor		TO THE REPORT OF THE PARTY OF T	071/126652	Nov 20, 2007
AVGO:0034:00/HK	Multi-magnification color image sensor	Pending	Hong Kong	U/:1120032	
AVGO-0034.00/JP	Multi-magnification color	Pending	Japan	2007529904	Aug 10, 2005
	image sensor	wassasse of the period of the control of the contro	Republic of Korea	20077006772	Aug 10, 2005
AVGO-0034:00/KR	Multi-magnification color image sensor	Pending	trabonic or troica		
AVGO-0034.00/PC	Multi-magnification color	Completed	PCT	PCTUS2005028405	Aug 10, 2005
	image sensor Multi-magnification color	Pending	Singapore	2007012768	, Aug 10, 2005
AVGO-0034.00/SG	Image sensor				Feb 4, 2005
AVGO-0034.00/TW	Multi-magnification color image sensor	Pending	Taiwan R.O.C.	94103693	F80 4, 2003
AVG0-0034701/US	Multi-magnification color	Pending	United States of America	12182525	Júl 30, 2008
AVGC-0034 CICC	image sensor			2002297742	Oct 10, 2002
AVGO-0037.00/JP	SEQUENTIAL READ-OUT METHOD AND SYSTEM	Pending	Japan	2002237142	
	THAT EMPLOYS A SINGLE AMPLIFIER FOR MULTIPLE				
	COLUMNS			20020063092	Oct 16: 2002
AVGO-0037.00/KR	SEQUENTIAL READ-OUT.	Pending	Republic of Korea	20020063092	
	THAT EMPLOYS A SINGLE AMPLIFIER FOR MULTIPLE				
	COLUMNS			2112	Jul 18. 2003
AVGO-0042.00/DE	LEADLESS LEADFRAME ELECTRONIC PACKAGE	Pending	Germany	103462929	Jul 10, 2003
•	AND SENSOR MODULE				
	INCORPORATING SAME				

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGG-0042/00/JF	LEADLESSILEADERAME : FLECTRONIC PACKAGE	Pending	Japan 2	2004030647	Fep.6, 2004
	AND SENSOR MODULE INCORPORATING SAME LEADLESS LEADFRAME	Pending	United States of America	11477004	Jun 28, 2006
AVGO-0042.01/US	ELECTRONIC PACKAGE AND SENSOR MODULE INCORPORATING SAME	, ending			
AVG0-0043.00/DE	Method and apparatus for optimizing image sensor holse and dynamic range.	Pending	Germany	103572414	Dec:8, 2003
AVGO-0043.00/JP	Method and apparatus for optimizing image sensor noise	Pending	Japan	P2004129330	Apr 26, 2004
AVGO-0049.00/US	and dynamic range Method and apparatus for optimizing image sensor noise		United States of America	10427318	Apr 30) 2003
AVGO-0045.00/EP	and dynamic range. Method and apparatus for removing flicker from Images	Pending	European Patent Office	020129979	Jun 12, 2002
AVGO-0045:00/JP	Method and apparetus for Temoving flicker from images	Pending	Japan	2002212267	Jul 22, 2002
AVGO-0046.00/JP	DIGITAL IMAGE SYSTEM AND METHOD FOR COMBINING DEMOSAICING	Pending	Japan	2003198261	Jul 17, 2003 ਵ੍
	AND BAD PIXEL CORRECTION			1-15 kamanggaya magaggaman maraka ya kata samaka karangan galaka kata kata kata kata kata kata kata	
AVGO-0050:00/JP	SYSTEMS AND METHODS OF SAMPLING A PHOTODETECTOR AND	Pending	Japan	2002330162	Nov 1472002
	PHOTOCELL CIRCUITS INCORPORATING THE SAME	in the second			
AVGO-0051.00/CN	Image sensor with embedded optical element	Pending	China	2006100032309	Jan 27, 2006
AVGO-0051 00/GB	Image sensor with embedded soptical alement		United Kingdom,	06019418	,Jan 31, 2006 Jan 31, 2006
AVGO-0051.00/JP	Image sensor with embedded optical element	Pending	Japan	200621934	
AVG0-0051:00/TW	Image sensor with embedded optical element	Pending	Taiwen R.O.C.	94131819	Sep 15, 2005
AVGO-0051.00/US	Image sensor with embedded optical element	Pending	United States of America	11048180	Feb 1, 2005

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0052.00/JP	Method For Detecting And Correcting Defective Pixels in	Pendings.	Japan*	2003324172	Sep.17, 2003;
AVGO-0053.00/EP	A Digital Image Sensor CMOS image sensor using gradient index chip scale lenses	Pending	European Patent Office	030078067	Apr 4, 2003
AVGO-0053:00/JP	CMOS mege sensor using gradient index chip scale lenses	Pending	Japan	2003293248	Aug 13, 2003)
AVGO-0053.00/PR	CMOS image sensor using gradient index chip scale lenses	Completed	United States of America	60403411	Aug 13, 2002
AVG0/0053.01/US	CMOS image sensor using gradient index chip scale lenses	Rending	United States of America	12183633	. júl31,2008
AVGO-0054.00/JP	IMAGING APPARATUS AND ITS MANUFACTURING METHOD	Pending	Japan	2003146149	May 23, 2003
AVGO-0055:00/US	Apparatus and method for detecting and compensating for literally change	Pending s	United States of America :=	10388813	: Mar 14, 2003
AVGO-0056.01/US	within an image Multifunction lens	Pending	United States of America	12176760	Jul 21, 2008 Mar 3, 2004
AVGQ-0057-00/JP	WAFER SCALE MANUFACTURING METHOL	20 ft place (1900) 10 Calcin College (1900) 10 Calcin Calc	Japan :	2004058701 030253033	Nov 3, 2003
AVGO-0058.00/EP	System and method for shape reconstruction from optical images	Pending	European Patent Office	030203003	
AVGØ:0058:01/EP:	System and method for shape a reconstruction from optical	Rending	European Patent Office	070016340	(Nov.3, 2003
AVGO-0059,00/DE	Images A Method And Apparatus For Distributed Analyses Of Images	Pending	Germany	1020050450776	Sep 21, 2005
AVG020059.00/GB	A Method And Apparatus For Distributed Analyses Of Images	Pending	United Kingdom	05225040	Nov 3, 2005
AVGO-0059.00/JP	A Method And Apparatus For Distributed Analyses Of Images	Pending	Japan	2005360643	Dec 14, 2005 .
AVG0-0059:01/US	A'Melhod And Apparatus For Distributed Analyses Of	Pending:	United States of America	12138579	Jun 13.2008

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FILE NUMBER	TITLE STAT	US COL	JNTRY NAME F	APPLICATION NUMBER	DATE FILED
AVGO-0062.00/CN	Images SYSTEM AND METHOD FOR Pendi DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	. •			Sap 20, 2005
AVG0-0062.00/GB	SYSTEM: AND METHOD: FOR: Pand DETECTING AND CORRECTING DEFECTIVE RIXELSINA DIGITAL IMAGE SENSOR			eq.	Dec 2, 2005
AVGO-0062.00/JP	SYSTEM AND METHOD FOR Pend DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	·		The state of the s	Dec 8, 2005
AVGO-0062/00/KR	SYSTEM AND METHOD FOR Pend DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL MAGE SENSOR			20050119772	
AVGO-0062.00/TW	SYSTEM AND METHOD FOR Pend DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR			94125108	Jul 25, 2005
AVG0-0062 <u>.00/US</u> _	SYSTEM AND METHOD FOR, Allow DETECTING AND CORRECTING DEFECTIVE PIXELS IN A DIGITAL IMAGE SENSOR	ed Uni	iad Stales of America		66. (0.14)
AVGO-0063.00/GB	SYSTEM AND METHOD FOR Pend FOCUSING A DIGITAL CAMERA	ling Uni	14.820	05233689	Nov 16, 2005
AVG0:0063'00/JP	SYSTEM AND METHOD FOR PARCE FOCUSING A DIGITAL CAMERA	A STATE	100 Maria		Nov 16, 2004
AVGO-0063.00/US	SYSTEM AND METHOD FOR Pend FOCUSING A DIGITAL CAMERA		ited States of America	10989615	Mara 2001
AVGO:0064\007JP	METHOD AND STRUCTURE FENC FOR REDUCING LEAK CURRENTION ACTIVE REGION DIODE AND	ling (t.)(t.)dar	oan E E E E E E E E E E E E E E E E E E E	XW100560/37 8 4	and the state of t

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FILE NUMBER	TITLE TO A SECURITION OF	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
ALE NOMICE AND	SOURCE/DRAIN DIFFUSION	The state of the s			
	REGION			103555897	Nov 28, 2003
AVGO-0065.00/DE	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	Germany		Apr 9 2004
AVGG-0065 00/JP	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	Japan,	2004115460	J
AVGO-0065.01/US	CMOS IMAGE SENSOR WITH ACTIVE RESET AND 4-TRANSISTOR PIXELS	Pending	United States of America	11753095	May 25, 2007
AVGO-0068:00/US	Reducing image sensor lag	Pending	United States of America	10615522 10651597	Jul 8, 2003 Aug 29, 2003
AVGO-0069.00/US	Digital correlated double sampling using dual analog path	Allowed	United States of America	Annual Control of the	Constitution with the second s
AVG0-0070:00/US	Apparatus including a dual camera module and method of using the same.	Pending	United States of America	10651599	Aug 29, 2003
AVGO-0071.00/JP	COMPACT PIXEL RESET	Pending	Japan	P2004094176	Mar 29, 2004
A400-007 1.00/21	CIRCUITS USING REVERSED CURRENT READOUT			The second secon	an mark names at the second consideration of the contract of the
AVGG-0072/00/US	Digital camera that enters a sub-sampling mode for al least one sub-function	Pending	United States of America	10360188	Feb 7, 2003
AVGO-0076.00/US	Active pixel sensor array sampling system and method	Pending	United States of America	10798994	Mar 11, 2004
AVG0-0077-01/US	SAMPLE AND HOLD CIRCUIT AND ACTIVE PIXEL	Pending	United States of America	12108002	Apr 23, 2008
	SENSOR ARRAY SAMPLING SYSTEM UTILIZING SAME				t. Jenett
AVGO-0079.00/CN	Circuit For An Active Pixel	Pending	Chlna	200410070347X	Jul 29, 2004
AVGO:0079.00/DE	Sensor Circuit For An Active Pixel	Pending.	Germany	10200400966279	Fe6:27 2004
	Sensor Circuit For An Active Pixel	Pending	Japan	P2004221094	Jul 29, 2004
AVGO-0079.00/JP	Sensor	The second secon		12061806	Apr 3, 2008
AVGO-0079/01/US	CIRCUIT FOR AN ACTIVE PIXEL	Pending	United States of America		
AVGO-0080.00/WO	LOW NOISE AMPLIFIER AND IMAGING ELEMENT USING	Completed	PCT	U\$0309160	Mar 24, 2003

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	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	SAME		فتحصيف سالان عمدانيها		
/AVGO-0081.00/GB	Photo-array layout for	Pending:	United Kingdom	04279535	Dec 21, 2004 (1)
	monitoring image statistics Photo-array layout for	Pending	Japan	2005001363	Jan 6, 2005
AVGO-0081.00/JP	monitoring image statistics	Pending	Taiwan R.O.C	93127427	Sep 10, 2004
AVGQ:0081:00/TW	Photo-array layout for monitoring image statistics			10754434	Jan 9, 2004
AVGO-0081.00/US	Photo-array layout for monitoring image statistics	Allowed	United States of America		Aug 5 2004
AVG0-0082:00/US	Use of telephone specific components to provide	Allowed	United States of America	10912952	Aug 3, 2004
	refocusing in a camera-ready device		140		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
AVGO-0083.00/US	A Color Filter Device And Method For Eliminating Or	Pending	United States of America	11530574	Sep 11, 2006
	Reducig Non-Uniform Color Error Caused By Asymmetric		*	•	
•	Color Cross-Talk in Image Sensor Devices			· · · · · · · · · · · · · · · · · · ·	
AVG040084;00/JP	TMOTION DETECTING CAMERA SYSTEM	Pending	Japan	P2004125704	Apr 21 2004
AVGO-0084.00/US	MOTION DETECTING	Pending	United States of America	10423523	Apr 25, 2003
	CAMERA SYSTEM Method And System For	Pending	China	2005800427523	LOct 31/2005
AVGO-0085 00/CN	Determining Motion Based Or Difference Image Correlation				
AVGO-0085.00/DE	Method And System For Determining Motion Based Or	Pending	Germany		Oct 31, 2005
	Difference Image Correlation		European Patent Office	D58211988	Oct 3172005
AVG0-0085.00/EP	Method And System For Determining Motton Besed Or Difference Image Correlation	Pending	Colobeat, again Olivo		1935 C.
AVGO-0085.00/FR	Method And System For	Pending	France	A. B. 14 Carrier Strategies Control of Strategies Annual Control of Strategies Control o	Oct 31, 2005
AAGO-2000.0011 14	Determining Motion Based Or Difference Image Correlation	1			* Fort 31-2005 (Co.
AVG0-0085.00/GB	Method And System For.	Pending	United Kingdom		Trought 2007
	Determining Motion Based O Difference Image Correlation	Pending	Hong Kong	081007165	Jan 19, 2008
AVGO-0085.00/HK	Method And System For Determining Motion Based Or Difference Image Correlation	n	i i wing i wing	•	
	Dillorative image contention				

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
	ALCOW FRN HIGHIGAIN				
	TRANSIMPEDANCE AMPLIFIER		118	10857050	May 28, 2004
AVGO-0092.00/US	Multiple image autofocus	Pending	United States of America	10857050 PCTUS0224516	Jul 30, 2002
AVG0-0093:00/WO	ANTI-BEOOMING CIRCUIT FOR CMOS IMAGE SENSORS	Abandoned	PCT?		
AVGO-0095.00/CN	Image Sensor With Active Reset And Randomly Addressable Pixels	Pending	China	2004100498422	Jun 24, 2004
AVGO-0095.00/JP	mage Sansor With Active Reset And Randomly	Pending	Japan	P2004229640	Aug 5, 2004
200 000 00 00 N	Addressable Pixels Image Sensor With Active	Pending	Taiwan R.O.C.	93106174	Mar 9, 2004
AVGO-0095.00/TW	Reset And Randomly Addressable Pixels		· ·		
AVGO-0097:00/EP	NOIM ROW SUPPRESSION	Pending	European Ratent Office		Nov 15, 2007 (1)
	SYSTEM AND METHOD FOR ACTIVE PIXELSENSOR		105		
AVGO-0097.00/PC	ARRAYS DIM ROW SUPPRESSION	Pending	PCT	PCTUS2007023829	Nov 15, 2007
AVG0-0051.00// 0	SYSTEM AND METHOD FOR ACTIVE PIXEL SENSOR ARRAYS	R			21:Nov-15: 2007
AV.GO=0097.00/TW	A Novel Solution For Dim Ro Suppression in 31 CMOS AF	w Pending	Jaiwan R.O.C.	096143589	
AVGO-0097.00/US	A Novel Solution For Dim Ro Suppression in 3T CMOS AP	w Pending	United States of America	11601346	Nov 17, 2006
AVG020098 00/EP	Image Sensor Device Having	Pending	European Patent Office		Sep 19 2007
	One Or More Modified Dumn Pixels That Are Usable As Non-Volalle Memory \$ 12	Y			
The State	Elements W 47		PCT	PCTUS2007020250	Sep 19, 2007
AVGO-0098.00/PC	Image Sensor Device Having One Or More Modified Dumn	y Pending ny	PGI .		
	Pixels That Are Usable As Non-Volatile Memory				
AVG000098 00/TW	Elements	is Pending	ा Taiwan R.O.C	096135625	- i Sep 21:2007
AVGUAUSOOUTT	iOne Or More Modified Dumin Pixels That Are Usable As Non-Volatile Memory	iyi.			
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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0098.00/US	Elements Image Sensor Device Having One Or More Modified Dummy Pixels That Are Usable As Non-Volatile Memory Elements	Pending	United States of America	11533816	Sep 21, 2006
AVG0-0099:007US AVGO-0100.00/US	Camera Triat Stores Pictures On A Remote System : First-In-First-Out Intermediate Image Storage		United States of America United States of America	11068152 10948505	Feb 28, 2005 Sep 23, 2004
AVGO-0101:00/US AVGO-0102.00/US	Boost Signal Interface Method And Apparatus Imaging With Clustered	s Pending	United States of America United States of America	.1098101.1 11008451	Nov 3, 2004 Dec 9, 2004
AVG0-0104:00/GB	Photosite Arrays CAMERA WITH SCALABLE RESOLUTION CAMERA WITH SCALABLE	Pending Pending	Uñited Kingdom: Japan	05144852 2005231404	- Juli14:2005 Aug 9, 2005
AVGO-0104.00/JP AVGO-0104.00/US	RESOLUTION CAMERA WITH SCALABLE RESOLUTION	Pending	United States of America	10915591 2004800417955	Aug 9 2004 Dec 14, 2004
AVGO-0105.00/CN	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	China		500 14, 2007
AVGG-0105:00/EP	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending .	European Patent Office	048140719 at	Dec 14/2004
AVGO-0105.00/HK	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSOR ELEMENTS	Pending	Hong Kong	071022158	Feb 28, 2007
AVG@-010500/JP &	COLOR MAGE SENSOR HAVING IMAGING ELEMENT ARRAY FORMING IMAGES ON RESPECTIVE REGIONS OF SENSORE LEMENTS	Pending	Japan Lugar	#2006545804 # 72	Dec 14, 2004
AVGO-0105.00/PC	COLOR IMAGE SENSOR HAVING IMAGING ELEMENT	Completed	PCT	PCTUS2004041841	Dec 14, 2004

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ARRAY FORMING IMAGES
ON RESPECTIVE REGIONS
OF SENSOR ELEMENTS

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGG-010500/US	COLOR IMAGE SENSOR	Pending	United States of America	10740935	Dác 18 22003
	HAVING MAGING ELEMENT ARRAY FORMING MAGES			Ship in	
	ON RESPECTIVE REGIONS OF SENSOR ELEMENTS				E. C.
AVGO-0106.00/CN	LIGHT FILTERING IMAGE SENSOR	Pending	China	2005100072157	Feb 4, 2005
AVG0-0106.00/DE	LIGHT/FILTERING IMAGE SENSOR	Pending	Germany	1020050055907	#Feb7, 2005
AVGO-0106.00/IL	LIGHT FILTERING IMAGE SENSOR	Pending	Israel	166071	Dec 30, 2004
AVGO-0106:00/JP	LIGHT FILTERING MAGE SENSOR	Pending	Japan	P2005145135	May-18, 2005
AVGO-0106.00/TW	LIGHT FILTERING IMAGE	Pending	Taiwan R.O.C.	093141826	Dec 31, 2004
AVG020106:00/US	SENSOR Minimal depth light fillering.	Pending	United States of America	10851012	May/21, 2004
AVGG-010600/05	image sensor		United States of America	10841854	May 7, 2004
AVGO-0107.00/US	Digital camera producing Image embedded with diagnostic characteristic	Allowed	United States of America	10041634	
AVGC-0108,00/GB	Spectral normalization using Illuminant exposure estimation	Pending	United Kingdom	06005219	Jan 11, 2006
AVGO-0108.00/JP	Spectral normalization using illuminant exposure estimation	Pending	Japan	200630553	Feb 8, 2006
AVG0-0110 00/JP	Pixel Having Photoconductive Layers		Japan	2006325248	Dec 1 2006
AVGO-0110.00/TW	Pixel Having Photoconductive Layers	Pending	Taiwan R.O.C.	95142406	Nov 16, 2006
AVG0-0110.00/US	Pixel Having Photoconductive Layers	Pending	-United States of America	11291257	Dec 1, 2005
AVGO-0111.00/US	Imaging system	Pending	United States of America	10974077	Oct 27, 2004 Jan 21, 2005
AVG0-0112 00/CN	CMOS Image Sensor With Reduced 1/F/Noise	(Pending	China e	2005100024327	
AVGO-0112.00/GB	CMOS Image Sensor With Reduced 1/F Noise	Pending	United Kingdom	05084579	Apr 26, 2005
AVG0-0112.00/JP 4	CMOS mage Sensor With. Reduced 1/F Noise	-Pending:	Jepan	P2005121341	Apr 19: 2005
AVGO-0112.00/TW	CMOS Image Sensor With Reduced 1/F Noise	Pending	Taiwan R.O.C.	093141403	Dec 30, 2004

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME		
AVGG-0112:00/US	CMOS image Sensor With Reduced 1/F Noise	Allowed	United States of America	10842303	May 10 2804
AVGO-0113.00/FR	Column amplifier architecture	Abandoned	France	993035955	May 7, 1999
AVG0-0113:007IT	In an active pixel sensor Column emplifier architecture	Abandoned	ltaly	993035955	May 7, 1999
AVGC-01500/I	in an active pixel sensor			PH11125466	May 6, 1999
AVGO-0113.00/JP	ARCHITECTURE FOR PIXEL SENSOR COLUMN AMPLIFIER	Pending	Japan	and the second s	man ayang tanaman an a
AVG0-0113:00/SG	PIXEL SENSOR COLUMN AMPLINER ARCHITECTURE		Singapore	99000788	Jan 13, 1999
AVGO-0114.00/US	System and method for bonding camera components after adjustment	Abandoned	United States of America	10936900	Sep 9, 2004
AVG0-0115:00/US	Auto-focus system using bubble technology	Pending v	United States of America	10981272	Nov.3, 2004
AVGO-0116.00/EP	Method and system for	Pending	European Patent Office	057689853	Jun 29, 2005
	reducing artifacts in Image detection	•			The second secon
AVGO:0116:00/JP	Method and system for reducing antracts in Image detection	Closed:	Japan	Print 1	Jun 26, 2005
AVGO-0116.00/KR	Method and system for reducing artifacts in image detection	Pending	Republic of Korea	20077002432	Jun 29, 2005
AVGQ-0116.00/TW	Method and system for reducing artifacts in image	Pending :	Taiwan R.O.C	93136860	Nôy 30, 2004
	ardetection are the state of th		United States of America	10882038	Jun 30, 2004
AVGO-0116.00/US	Method and system for reducing artifacts in Image detection	Pending	United States of America		
AVG0-0116:00/W0	Method and system for reducing artifacts in image.	Completed	(PCT) = 0	PCTUS2005023386	Jun 29 2005
AVGO-0117.00/CN	Image encoding with dynamic buffer-capacity-level-based compression adjustment	Pending	China	200510093163X	Aug 19, 2005
AVG0-0117:00/GB	Image encoding with dynamic	Pending	United Kingdom	95216585	Oct 24, 2005*
	buffer-capacity-level-based compression adjustment			Late and the second	1
AVGO-0117.00/JP	Image encoding with dynamic	Pending	Japan	2005324565	Nov 9, 2005

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		STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
FILE NUMBER	TITLE				Perference and a section polynomials and a section of the section
	buffer-capacity-level-based compression adjustment	*			and the second of the second o
AVG0-0117-00/TW	Image encoding with dynamic	Pending	Talwan R.O.C.	094125148	Jul 25, 2005
AVGUVIII	ibuffer-capacity-levél-based compression adjustment				
AVGO-0117,00/US	Image encoding with dynamic	Allowed	United States of America	10987260	Nov 12, 2004
AVG0,0111,00/00	buffer-capacity-level-based compression adjustment				The second secon
AVGO-0118.00/GN		Pending	China	2005100931682	Aug:19, 2005
AVGC-VIIIGUUGH	OFTICAL ENHANCEMENT OF INTEGRATED CIRCUIT SPHOTODETECTORS				
AVGO-0118.00/GB	OPTICAL ENHANCEMENT	Pending	United Kingdom	05227582	Nov 8, 2005
AVGC-0110.00/GD	OF INTEGRATED CIRCUIT PHOTODETECTORS	•		,	The second secon
AVGO-0118/00/JP	OPTICAL ENHANCEMENT	Pending 3	Japan	2005323287	Nov 8, 2005
AVGC-unougu	OF INTEGRATED CIRCUIT				
AVGO-0118.00/TW	OPTICAL ENHANCEMENT	Pending	Taiwan R.O.C.	094125286	Jul 26, 2005
AVGU-0110.00/144	OF INTEGRATED CIRCUIT	•			
'AVGO-01'18:01/US	OPTICAL ENHANCEMENT	Allowed	United States of America	11746863	Mar 12, 2007
AVGOVITOURE	OF INTEGRATED CIRCUIT				
AVGO-0119.00/US	Pixel With Asymmetric	Pending	United States of America	11323693	Dec 30, 2005
AAGO-0119:00:00	Transfer Gate Channel Doping		United States of America	11707848	S. Feb. 16, 2007
AVGO-0119/01/US	Pixel With Asymmetric Transfer Gate Channel Dopling	Rending	United States of Atherica	100	
AVGO-0122.00/CN	System and method for	Pending	China	2006100996234	May 25, 2006
1,11.22	processing images using centralized image correction				
	data	nemente a sen o despeso de la casa de la cas	United Kingdom	06104038	May 25 2006
AVGO:0122.00/GB	System and method for processing images using	Pending	Ullited Full Goom	A Lagrangian	The series of th
	centralized Image correction data				and the second second
AVGO-0122.00/HK	System and method for	Pending	Hong Kong	071069385	Jun 28, 2007
UA OO-0 (EEGOO) III	processing images using centralized image correction				
.*	data			2006142297	May 23, 2006
AVG0-0122.00/JP	System and method for processing images using	Pending	- Japan	2000142231	
	centralized image correction			· · · · · · · · · · · · · · · · · · ·	

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0122.00/KR	data: System and method for processing images using centralized image correction data	Pending	Republic of Korea	20060046652	May 24, 2006
AVGO-0122,00/TW*	System and method for processing images using centralized image correction date	Pending	Taiwan R O.C	95117625g	May 18, 2006 May 25, 2005
AVGO-0122,00/US	System and method for processing images using centralized image correction data	Pending	United States of America	11136941	May 31, 2006
AVGO-0123:00/CN 	System and method for reducing read-out noise in a pixel arrey. System and method for	Pending Pending	China United Kingdom	06107718	May 31, 2006
AVG020123:00/HK	reducing read-out noise in a pixel array System and method for reducing read-out holse in a	Panding	Hong Kong	N 07/079542 _ ¹²	
AVGO-0123.00/JP	pixel erray System and method for reducing read-out noise in a pixel array	Pending	Japan	2006149390	May 30, 2006
AVGO-0123/00/KR	System and method for reducing read out noise in a pixel array. System and method for	Pending Pending	Republic of Korea Talwan R.O.C.	95117622	May 18, 2006
AVGO-0123.00/TW	reducing read-out noise in a pixel array System and method for reducing read-out noise in a	, Pending	United States of America	/1142(66 b)	May 31: 2005
AVGO-0124.00/US	pixel array Correcting Photographs Obtained By A Handheld Device	Pending	United States of America	11272400	Nov 10, 2005
AVGO-0125.00/PC	Analog Vertical Sub-Samplin in An Active Pixal Sensor (APS) Image Sensor	g Pending	PCT	096131105	Aug 15.2007 15 Aug 22, 2007
AVGO-0125.00/TW	Analog Vertical Sub-Samplin	ng Pending	Taiwan R.O.C.	090131100	Log tel too.

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGO-0126.00//CN	(APS) Image Sensor System and method for detecting thermal/enomalles	Rending	China	2005101323665	Dec/21, 2005 Feb 23, 2006
AVGO-0126.00/GB	Detecting thermal anomalies using visual image and thermal image data	Pending	United Kingdom	06036867	F66:27, 2006
AVG0-0126;00/JP	System and method for detecting thermal anomalies System and method for	Pending Pending	Japan Taiwan R.O.C.	94147502	Dec 30, 2005
AVGO-0128.00/TW AVGO-0126.00/US	detecting thermal anomalies System and method for detecting thermal anomalies	Allowed	United States of America	11067451	Feb/25/2005
AVGO-0127.00/CN	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	China	2005100931659	Aug 19, 2005
AVGO-0127,00/GB	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	United Kingdom	05227608	Nov 8; 2005
AVGO-0127.00/JP	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Pending	Japan	2005323272	Nov 8, 2005
AVGO-0127/00/TW	Method For Fabricating Low Leakage Interconnect Layers in Integrated Circuits	Pending	Talwan R.O.C	094125]39.	ປັນ 25, 2005
AVGO-0127.00/US	Method For Fabricating Low Leakage Interconnect Layers In Integrated Circuits	Abandoned	United States of America	10984701	Nov 9, 2004
AVGO-0127.01/US	Method For Fabricating Low Leakage interconnect Layers in integrated Circuits	Pending.	United States of America	11525428	Sep 22: 2006
AVGO-0129.00/US	Multi-Camera System and Method	Pending	United States of America China	11238461 	Sep 28, 2005
AVGO-0130.00/DR AVGO-0130.00/DE	Pixel with Spatially Varying Sensor Rositions Pixel with Spatially Varying Sensor Positions	Pending Pending	Germany	1020060495659	Oct 20, 2006
AVG©-0130(00/GB	Pixel with Spatially, Varying Sensor Positions	Pending	United Kingdom (*	0620151133 071094669	7, Oct 11, 2006 Oct 11, 2008
AVGO-0130.00/HK	Pixel with Spatially Varying-Sensor Positions	Pending	Hong Hong		

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVG0-0130.00/JP 2 11	Pixel with Spatially Varying Sensor Positions	Pending	(Vapan 7) - 1	2006286416	Oct/20, 2006
AVGO-0130.00/US	Pixel with Spatially Varying-Sensor Positions	Allowed	United States of America	11256743	Oct 24, 2005
AVGO-0130.01/US	Pixel with Spatially. Varying-Sensor Positions	Pending	United States of America	122026661 3	Sep 2-2008
AVGO-0132.00/US	METHOD AND APPARATUS FOR DETECTING FAILED RESET IN PIXELS OF AN IMAGER	Pending	United States of America	11048479	Jan 31, 2005
AVGQ-0133.00/US	Mollon detecting camera system	Pending	United States of America	11079401	Mar 14, 2005
AVGO-0134.00/US	System And Method Of Lens Placement	Allowed	United States of America	11273990	Nov 15, 2005
AVGØ-0.135:00/US	Dark current/channel difference compensated image sensor	Pending	United States of America	11140650 /-	i May 27, 2005
AVGO-0136.00/CN	Reduce Crosstalk CMOS Image Sensors	Pending	China	2006101038463	Aug 4, 2006
AVG0-0136.00/EP	Reduce Crosstalk CMOS	Pending	European Patent Offices	060153566	Jul 24, 2006
AVGO-0136.00/HK	Reduce Crosstalk CMOS	Pending	Hong Kong	071098317	Sep 10, 2007
AVG0-0136.00/JP	Reduce Crosstalk CMOS	Pending	Japan	2006212759	Aug 4: 2006
AVGO-0136.00/KR	Reduce Crosstalk CMOS Image Sensors	Pending	Republic of Korea	20060073274	Aug 3, 2006
AVGG-0136 00/TW	Reduce Crosstalk CMOS # 44 Image Sensors	Pending :	Talwan R.O.C	95127523	Jul 27: 2006
AVGO-0136.01/US	Reduce Crosstalk CMOS Image Sensors	Pending	United States of America	11940569	Nov 15, 2007
AVG0-0137:00/US	Flexible carriera lens berrel	A SAMA MARIO AND	SECULOR SECULOR CONTRACTOR SECULOR SEC	10455283	Jun 4, 2003
AVGO-0138.00/GB	Image Sensor and Method of Configuring an Image Sensor		United Kingdom	06090294	May 5, 2006
AVGO-0198.00/JP:	PIXEL WITH SPATIALLY VARYING METAL ROUTE POSITIONS	Pending :	Japan (2)	2006129206	(Nay 8; 2006
AVGO-0139.00/US	Self-Calibrating And /or Self -Testing Camera Module	Pending	United States of America	11239851	Sep 30, 2005

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		OTATION:	COUNTRY NAME	APPLICATION NUMBER	DATE FILED	
FILE NUMBER	TITLE	STATUS			Jun 2, 2006	
AVGO-0140.00/CN	PIXELWITH ASYMMETRIC TRANSFER GATE CHANNEL	Pending	China	12006101592350	July 2000	
	DOPING		3.6		May 30, 2006	
AVGO-0140.00/GB	PIXEL WITH ASYMMETRIC TRANSFER GATE CHANNEL	Pending	United Kingdom	06106389	May 30, 2006	
	DOPING		A CONTRACTOR OF THE CONTRACTOR AND SECURE	n y mangangganggangganggangganggan an a a managan ang	The second secon	
AVGO-0140,00/HK	RIXEL®WITH ASYMMETRIC STRANSFER GATE CHANNEL	Pending	Hong Kong	071083430	Júl/31/2007	
	DORING			<u> </u>	Jun 5, 2006	
AVGO-0140.00/JP	PIXEL WITH ASYMMETRIC	Pending	Japan	2006156077	Jun 3, 2006	
•	TRANSFER GATE CHANNEL DOPING				ALCON MANAGEMENT	
AVGO-0140:00/KR	PIXEL WITH ASYMMETRIC	Pending	Republic of Korea	20060049430	(Juli 1,2200)	
	TRANSFER GATE CHANNEL DOPING			PALASEE TO SEE THE	May 30, 2006	
AVGO-0140.00/TW	PIXEL WITH ASYMMETRIC	Pending	Taiwan R.O.C.	95119169	May 30, 2006	
	TRANSFER GATE CHANNEL DOPING				ALTER COOR	
AVG@-0142.00/US	Lens Focusing Device With	Pending	United States of America	11143989 1	Jun 2, 2005	
	Latching Shoe, Automatically Capturing	Abandoned	PCT	PCTUS2007003936	Feb 13, 2007	
AVGO-0143.00/PC	Focused Images Obtained					ATH.
	Through Unguided Manual Focus Adjustment	mas Aur	and the second s	. compression of the control of the		-7-
AVGO-0143.00/US	Automatically Capturing,	Pending	. United States of America	11353365	Feb 14 2006	
- 4	Focused Images Obtained Through Unguided Manual					
	Focus Adjustment		United States of America	11525282	Sep 22, 2006	
AVGO-0144.00/US	Graphical User Interface Based Control Of Imaging	Pending	Dillied States of Filmonia		•	
	Parameters Including Scene					
AVGO-0145:00/EP	Vertial Tri-Color Sensor	Pending	European Patent Office	077519569	Fe6/28, 2007	
AVGO-0145.00/JP	Vertial Tri-Color Sensor	Pending	Japan	100106851	Feb 28, 2007	ŧ
AVGG-0145.00/KR	S Vertial Tri-Color Sensor - 35	Pending,	Republic of Kores	PCTUS2007005225	Feb 28, 2007	
AVGO-0145.00/PC	Vertial Tri-Color Sensor	Pending	PCT	F01032001000220	Feb.28, 2007.	Ì
/AVGO-0145:00/SG	Vertial Tri-Color Sensor	Pending	Singapore United States of America	11362711	Feb 28, 2006	z
AVGO-0145.00/US	Vertial Tri-Color Sensor	Pending Pending	China	2006101275948	Sep 19, 2006 \$	•
AVGO-0146.00/CN	Imaging Device with Blur Reduction System	a diming	W . (1)		Application of the second of t	į

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
AVGG-0177.00/DE	Semiconductor packaging	Abandoned	Germany	103433007	Sepki8, 2003
AVGO-0177.00/JP	Semiconductor packaging structure	Abandoned	Japan	2003384708	Nov 14, 2003
AVG0-0177:00/MY	Semiconductor Packaging	Abandoned	Malaysia	20024261	Nov 14, 2002
AVGO-0177.00/US	Structure / Semiconductor packaging structure	Abandoned	United States of America	10649006	Aug 26, 2003
AVGO-0178.00/JP	Fixed focus digital camera with	(Pending	Japan	1/2003407649 ₃	(Dec 5, 2003
	defocus correction and a		United States of America	10313598	Dec 5, 2002
AVGO-0178.00/US	Fixed-focus digital camera with defocus correction and a method thereof	Abandoned	Child orates of Africanon	10014000	
AVGG-0179:00/EP	DIGITAL IMAGING CIRCUIT	Pending .	European Patent Office 1	003063021	Jul 24, 2000
AVGO-0180.00/JP	APPARATUS AND METHOD FOR PROTECTING	Pending	Јарап	P2001089146	Mar 27, 2001
	INTEGRATED CIRCUIT CHARGE STORAGE				
*	ELEMENTS FROM PHOTO-INDUCED CURRENTS	•	d		The second of th
AVGO-0181.00/US	image Acquisition Timing System And Method	Pending	United States of Americals	10754950	(i) Jan 9, 2004
AVGO-0182.00/EP	Interlayer Dielectric For Passivation Of An Elevated	Abandoned	European Patent Office	003038221	May 8, 2000
	Integrated Circuit Sensor Structure				**************************************
AVG@-0182-00/JP	Interlayer Dielectric For Passivation Of An Elevated	Pending (**)	Japan	P2000127497	Apr 27, 2000
	Integrated Circuit Sensor Structure		China	2006100928909	May 26, 2006
AVGO-0185.00/CN	Methods for packaging an image sensor and a packaged image sensor	Pending	Cilila	2000 100025005	,
AVGO-0185.00/DE	Methods for packaging an image sensor and a packaged	Pending	Germany	1020060238796	May 22, 2006
AVGO-0185.00/HK	/Image sensor // Methods for packaging an	Pendina	Hong Kong	071066627	Jun 21, 2007
MAGO-0 (00'00N III	image sensor and a packaged image sensor				

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FILE NUMBER	TITLE	STATUS	COUNTRY NAME	APPLICATION NUMBER	DATE FILED
10.70	Sensor Device				
AVGO-0193.00/US	Image Sensor Device Having Improved Noise Suppression Capability And A Method For Supressing Noise In An Image Sensor Device	Pending	United States of America	11457956	Jul 17, 2006
AVGO-0194.00/US;	A Buried-Cated Photoglode Device And Method For Configuring And Operating Same	Pending	United States of America	+11412280	Apr.27; 2006 Sep 15, 2000
AVGO-0196.00/EP	ACTIVE PIXEL SENSOR WITH ENHANCED RESET	Pending	European Patent Office	001203272	and the second s
AVGO-0196.00/SG	ACTIVE PIXEL SENSOR WITH ENHANCED RESET	Abandoried	Singapore	2000064063	Nov.29:2000
AVGO-0197.00/CN	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	China	2003801026579	Oct 29, 2003
AVG@-0197:00/JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Closed	Japan .	P2002318732	8 (Og 31, 2002
AVGO-0197.00/KR	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	Republic of Korea	20057007392	Oct 29, 2003
AVGQ-0197.00/WO	Image Pickup Module Having Zoom For Mobile Device	 Completed 	PCT	PCTUR2003013914+	G CG 29 2003
AVGO-0197.01/JP	CAMERA MODULE HAVING FUNCTION OF CHANGING LENSES	Pending	Japan	P2004548082	Apr 4, 2005
PBΠ-0004 01/US. →	INTERPOLATOR FOR A CMOS IMAGE: SENSOR FUSING A DIGITAL REGISTER	Pending	 United States of America 	10774603	Feb 10, 2004
PBIT-0007.00/PR	LOW-VOLTAGE COMMON SOURCE SWITCHED CAPACITOR	Abandoned	United States of America	60068155	Dec 16, 1997
PBIT-0008:00/PC	LOW-YOUTAGE COMPARATOR WITH WIDE INPUT VOLTAGE SWING	«Abandoned → τ	PCT	pctus9821894	Oci 16, 1998
PBIT-0008.00/PR	LOW-VOLTAGE COMPARATOR WITH WIDE INPUT VOLTAGE SWING	Abandoned	United States of America	60063750	Oct 17, 1997
PBIT-0009.00/CN	OUANTUM EFFICIENCY MPROVEMENTS IN ACTIVE	Abandoned	China	988118793	Oct 5, 1998

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ATTACHMENT "C"

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ATTACHMENT "D"

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ATTACHMENT "E"

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