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Form PTO-1595 (Rev. 03-05)
OMB No. 0651-0027 (exp. 6/30/2005)

RECORDATION FOI

10-02-2006



COMMERCE demark Office

ATENT.	103315004
To the Director of the U.S. Patent and Trademark Office: Please	record the attached documents or the new address(es) below.
1. Name of conveying party(ies):	2. Name and address of receiving party(les)
Narsingh B. SINGH (9/18/2006), Brian P. WAGNER (9/18/2006), David J. KNUTESON (9/18/2006), Michael E. AUMER (9/18/2006), Additional name(s) of conveying party(les) attached?	Name: Northrop Grumman Corp.  Internal Address: Street Address:
3. Nature of conveyance/Execution Date(s):  Execution Date(s): in parentheses after inventor name  X Assignment Merger Change of Name  Security Agreement Joint Research Agreement  Government Interest Assignment  Executive Order 9424, Confirmatory License  Other	Electronics Sensors Systems Div.  Law Department P.O. Box 17319 MS A440  City: Baltimore  State: Maryland  Country: United States of America Zip: 21203-7319  Additional name(s) & address(es) Yes X No attached:
4. Application or patent number(s):  A. Patent Application No.(s)  11/474,398  Additional numbers attached?	This document is being filed together with a new application.  B. Patent No.(s)  Yes X No
Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:
Name: Michael R. Cammarata BIRCH, STEWART, KOLASCH & BIRCH, LLP Internal Address: Atty. Dkt.: 1215-0573PUS1 Street Address: 8110 Gatehouse Road Suite 100 East P.O. Box 747	7. Total fee (37 CFR 1.21(h) & 3.41) \$ 40.00  Authorized to be charged by credit card  Authorized to be charged to deposit account  X Enclosed  None required (government interest not affecting title)
City: Falls Church	8. Payment Information
State:         VA         Zip: 22040-0747           Phone Number:         (703) 205-8000           Fax Number:         (703) 205-8050           Email Address:         mailroom@bskb.com	a. Credit Card Last 4 Numbers Expiration Date  b. Deposit Account Number Authorized User Name
9. Signature: Signature	September 27, 2006 Date
Michael R. Cammarata - 39,491 Name of Person Signing	Total number of pages including cover sheet, attachments, and documents:

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Birch, Stewart, Kolasch & Birch, LLP

MRC/mpe

Form PTO-1595	RECOR	DATION FORM COVER SHEET (continued)	
Additional Convey	ing Party(ies)/Exec	cution Date(s) (1. Continued):	
Andre BERGHMANS	(9/18/2006), Darren Th	HOMSON (9/18/2006), and David KA	AHLER (9/18/2006)
Additional Assigne	ees (2. Continued):		
Assignee Name:		Many Company of the C	
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Assignee Name:			
Internal Address:			
Street Address:			
City:	State:	Country:	Zip:
Additional Applicat	tions and/or Patent	s (4. Continued):	
Additional Patent Applicatio 4A. Continued:	on Numbers	Additional Patent Numbers 4B. Continued:	
	Additional numbers	s attached? Yes No	

Docket No.: 1215-0573PUS1



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## **ASSIGNMENT**

WHEREAS, we, <u>Narsingh B. SINGH, Brian P. WAGNER, David J. KNUTESON, Michael E. AUMER, Andre BERGHMANS, Darren THOMSON and David KAHLER</u>, hereinafter referred to as Assignors, have invented certain new and useful improvements in <u>SEMICONDUCTOR HETEROJUNCTION DEVICES BASED ON</u> SiC

described in an application for United States Letters Patent, executed by us on the date as stated below;

WHEREAS, Northrop Grumman Systems Corporation, a Delaware corporation, having its principal place of business at 1840 Century Park East, Los Angeles, CA 90067-2199, hereinafter referred to as Assignee, is desirous of acquiring the entire right, title and interest in, to and under said improvements and said application:

NOW, THEREFORE, in consideration of Assignors' obligations to Northrop Grumman Systems Corporation, and for other good and valuable consideration, the receipt and sufficiency is hereby acknowledged, Assignors have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over, unto Assignee, its successors, legal representatives and assign, Assignors' entire right, title and interest in, to and under said improvements, and said application and all divisions, renewals, continuations, and continuations-in-part thereof, and all United States Letters patent which may be granted thereon and all reissues and extensions thereof, and all applications for Letters Patent which may hereafter be filed for said improvements in any country or countries foreign to the United States, including the full right to claim for any such application the priority benefits of the International Convention for the Protection of Industrial Property and other priority-conferring treaties, and all Letters Patent which may be granted for said improvements in any country or countries foreign to the United States and all extensions, divisions, continuations, continuations-in-part, renewals and reissues thereof; and Assignors hereby authorize and request the Commissioner of Patents and Trademarks of the United States, and any official of any country or countries foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for said improvements to said Assignee, its successors, legal representatives and assigns, in accordance with the terms of this instrument;

Assignors hereby acknowledge that at the time of making the improvements herein identified, Assignors were under an obligation to assign to Assignee, Assignors' entire right, title and interest in, to and under said improvements;

Assignors hereby covenant that Assignors have full right to convey the interest herein assigned, and that Assignors have not executed, and will not execute, any agreement in conflict herewith and that Assignee, Northrop Grumman Systems Corporation, its successors, assigns and other legal representatives shall have the right to hold and enjoy for its and their own use and benefit, to the end of the term or terms for which such Letters Patent shall or may be granted, reissued or extended as fully and completely as the same right or could have been held and enjoyed by Assignors had this Assignment not been made.

Assignors hereby further covenant and agree to communicate to Assignee, its successors, legal representatives and assigns, any and all facts known to Assignors respecting said improvements; to promptly provide Assignors with all documents relating to said improvements, said invention, and said Letters Patent as may be known or accessible to Assignors; to testify as to the same in any interference or litigation or other legal proceedings related thereto; to sign all lawful papers, execute all extensions, continuations, continuations-in-part, divisional and reissue applications; and to make all rightful oaths or declarations and generally do everything possible to aid Assignee, its successors, legal representatives and assigns in obtaining and enforcing all the rights herein conveyed for said improvements in all countries without further compensation, but at the expense of Assignee, its successors, legal representatives and assigns.

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of <u>Sentember</u>, 2006, and has executed the referenced patent application on the 18th day of <u>Sentember</u>, 2006

Assignor's Signature

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STATE OF	Maryea	xd			
COUNTY	ofanne ar	uxdol.			
be the per he/she/they	rson(s) whose executed the sa rument to be the	name(s) is/are subscribed ame in his/her/their authorized	to this instrum capacity(ies),	before, personally appeared the basis of satisfactory evidenent and acknowledge to mand that by his/her/their signatch the person(s) acted, executive.	ne that nture(s)
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1215-0573PUS1 (001006-078) Serial No. 11/474,398 Page 3 of 5

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STATE	OF Mary	land, arundel			
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be the he/she/	person(s) who they executed the instrument to be	personally known to me – or – se name(s) is/are subscribed ne same in his/her/their authorize the person(s), or the entity up	d to this instru zed capacity(ies	ment and acknow ), and that by his/h	wledge to me that er/their signature(s)
<b>&gt;</b>	SS my hand and	official seal		Му	MARY J. STANLEY Notary Public Carroll County Maryland Commission Expires Aug 1, 2010
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	Mh	Assignor's Signature		-	
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WITNE  MC  (Seal)	SS my hand and Wy 3. C	official seal  Official seal  Official seal			NARY J. STANLEY Notary Public Carroll County Maryland Ission Expires Aug 1, 2010

1215-0573PUS1 (001006-078) Serial No. 11/474,398 Page 4 of 5

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of OLDHOLLUM, 2006, and has executed the referenced patent application on the day of OLDHOLLUM, 2006
Assignor's Signature
STATE OF Maryland) COUNTY OF annie arungsel
On 18th September 2006 before me, personally appeared
Andre BERGHMANS, personally known to me – or – proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal  MARY J. STANLEY Notory Public Corroll County Maryland (Seal)  My Commission Expires Aug 1, 2010
IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of Deptember, 2006, and has executed the referenced patent application on the day of Deptember, 2006.  Assignor's Signature
STATE OF Maryland) COUNTY OF anni del
On 18th Deptember 2006 before me, personally appeared person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal  MARY J. STANLEY  Notary Public  Carroll County  Maryland  My Commission Expires Aug 1, 2010

1215-0573PUS1 (001006-078) Serial No. 11/474,398 Page 5 of 5

IN WITNESS WHEREOF, the undersigned has executed and delivered this instrument this day of deposition ber, 20 06, and has executed the referenced patent application on the day of deposition ber., 2006. Assignor's Signature 1847 On , personally appeared David KAHLER, personally known to me - or - proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to this instrument and acknowledge to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument to be the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. WITNESS my hand and official seal MARY J. STANLEY **Notary Public** Carroll County Maryland (Seal) My Commission Expires Aug 1, 2010

> PATENT REEL: 018347 FRAME: 0807

**RECORDED: 09/27/2006**