Form PTO-1595 (Rev. 03-11) OMB No. 0651-0027 (exp. 04/30/2015)	U.S. DEPARTMENT OF COMMERCE United States Patent and Trademark Office
RECORDATION FORM COVER SHEET	
PATENTS ONLY	
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(ies)
	Name:Northrop Grumman Guidance and Electronics Company,
Northrop Grumman Systems Corporation	internal Address:
Additional name(s) of conveying party(ies) attached?	
3. Nature of conveyance/Execution Date(s):	Street Address: 21240 Burbank Blvd.
Execution Date(s)01/11/2013	
X Assignment Merger	
Security Agreement Change of Name	City: Woodland Hills,
Joint Research Agreement	State: California
Government Interest Assignment	Country: USA Zip 91367-6675
Executive Order 9424, Confirmatory License	Ziparaaraana
Other	Additional name(s) & address(es) attached? 🗌 Yes 🖾 No
4. Application or patent number(s): This document is being filed together with a new application.	
A. Patent Application No.(s)	B. Patent No.(s)
	7,050,001
Additional numbers attached? Yes XNo	
5. Name and address to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved: 1
Name:Carmen B. Patti	
	7. Totai fee (37 CFR 1.21(h) & 3.41) \$ <u>40.00</u>
Internal Address:	
	Authorized to be charged to deposit account Enclosed
Street Address: Carmen Patti Law Group, LLC One N. LaSalle Street, 44th Floor	None required (government interest not affecting title)
	8. Payment Information
City: Chicago	
State: <u>Illinois</u> Zip 50602	
Phone Number: <u>312-346-2800</u>	Deposit Account Number
Docket NumberNGC-168/000620-199	Authorized User Name
Email Address: info@cerawaroup.com	
9. Signature:	January 11, 2013
Signature	Date
Carmen B. Patti Name of Person Signing	Total number of pages including cover 6 sheet, attachments, and documents:
Documents to be recorded (including cover sheet) should be faxed to (571) 273-0140, or mailed to:	
Mall Stop Assignment Recordation Services, Director of the USPTO, P.O.Box 1459, Alexandria, V.A. 22313-1459	

PATENT REEL: 029635 FRAME: 0607

DEED OF ASSIGNMENTS

WHEREAS, Northrop Grumman Systems Corporation, a company registered in the State of Delaware, USA, of 2980 Fairview Park Drive Falls Church, VA 22042-4511, US (hereinafter "NGSC") owns certain new and useful improvements in various technologies embodied in systems, apparatuses and methods, for which NGSC has filed applications for Letters Patents of the United States as more fully described in <u>Schedule A</u>, which is attached hereto and made a part hereof.

WHEREAS, Northrop Grumman Guidance and Electronics Company, Inc., a company registered in the State of Delaware, of 21240 Burbank Blvd., Woodland Hills, CA 91367-6675, US (hereinafter "NGGECI") is desirous of obtaining the entire right, title and interest in, to and under the patent applications described in <u>Schedule A</u>:

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, NGSC hereby sells, assigns, transfers and sets over, unto NGGECI, its successors, legal representatives and assigns, the entire right, title and interest in, to and under the patent applications described in <u>Schedule A</u> and the inventions and improvements described therein, and all divisions, renewals, continuations and continuations-in-part thereof, and all Letters Patent of the United States that may be granted thereon and all reissues, reexaminations, and extensions thereof and all applications for Letters Patent that may hereafter be filed for any said inventions and improvements in any country or countries foreign to the United States, including those claiming priority to any of the patent applications described in <u>Schedule A</u> and all Letters Patent that may be granted for said inventions or improvements in any country or countries foreign to the United States and all extensions, renewals and reissues thereof, and any and all rights to sue for past infringement of anyone of the rights embodied in any of the foregoing.

AND NGSC hereby authorizes and requests the Commissioner of Patents 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 the inventions and improvements to NGGECI, its successors, legal representatives and assigns, in accordance with the terms of this instrument.

AND NGSC HEREBY covenants that NGSC has full right to convey the entire interest herein assigned, and that NGSC has not executed, and will not execute any agreement in conflict herewith.

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AND NGSC HEREBY further covenants and agrees that NGSC will communicate to NGGECI, its successors, legal representatives and assigns, any facts known to NGSC respecting the patent applications described in <u>Schedule A</u>, and will testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, continuation-in-part and reissue applications thereof, make all rightful oaths and generally do everything possible to aid NGGECI, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for said inventions and improvements in all countries.

IN WITNESS WHEREOF, NGSC has caused this instrument to be executed by its duly authorized officer on this 11^{th} day of _______, 2013.

Signed for and on behalf of NGGECI

COR

By

Tiffany McConnell (Name)

(Position / Job Title)

Signed for and on behalf of NGSC

Ву

Tiffany McConnell (Name)

Assistant Secretary (Position / Job Title) **p.**5

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SCHEDULE A

1. U.S. Patent Serial Number 7,050,001, Granted May 23, 2006 entitled, "CARRIER SIGNAL PHASE ERROR ESTIMATION."