

## PATENT ASSIGNMENT COVER SHEET

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| SUBMISSION TYPE:  | NEW ASSIGNMENT                       |               |                |                     |            |                  |            |
|---|--------------------------------------|---------------|----------------|---------------------|------------|------------------|------------|
| NATURE OF CONVEYANCE:   | ASSIGNMENT                           |               |                |                     |            |                  |            |
| CONVEYING PARTY DATA  |                                      |               |                |                     |            |                  |            |
| <table border="1"> <thead> <tr> <th>Name</th> <th>Execution Date</th> </tr> </thead> <tbody> <tr> <td>SAM M. DANIEL</td> <td>01/14/2013</td> </tr> <tr> <td>MICHAEL C. BROWN</td> <td>10/04/2013</td> </tr> </tbody> </table> |                                      | Name          | Execution Date | SAM M. DANIEL       | 01/14/2013 | MICHAEL C. BROWN | 10/04/2013 |
| Name  | Execution Date                       |               |                |                     |            |                  |            |
| SAM M. DANIEL   | 01/14/2013                           |               |                |                     |            |                  |            |
| MICHAEL C. BROWN  | 10/04/2013                           |               |                |                     |            |                  |            |
| RECEIVING PARTY DATA  |                                      |               |                |                     |            |                  |            |
| Name:   | RAYTHEON COMPANY                     |               |                |                     |            |                  |            |
| Street Address:   | 870 WINTER STREET                    |               |                |                     |            |                  |            |
| City:   | WALTHAM                              |               |                |                     |            |                  |            |
| State/Country:  | MASSACHUSETTS                        |               |                |                     |            |                  |            |
| Postal Code:  | 02451-1449                           |               |                |                     |            |                  |            |
| PROPERTY NUMBERS Total: 1   |                                      |               |                |                     |            |                  |            |
| <table border="1"> <thead> <tr> <th>Property Type</th> <th>Number</th> </tr> </thead> <tbody> <tr> <td>Application Number:</td> <td>13741765</td> </tr> </tbody> </table>   |                                      | Property Type | Number         | Application Number: | 13741765   |                  |            |
| Property Type   | Number                               |               |                |                     |            |                  |            |
| Application Number:   | 13741765                             |               |                |                     |            |                  |            |
| CORRESPONDENCE DATA   |                                      |               |                |                     |            |                  |            |
| Fax Number:   | (781)401-9966                        |               |                |                     |            |                  |            |
| Phone:  | 7814019988                           |               |                |                     |            |                  |            |
| Email:  | sms@dc-m.com                         |               |                |                     |            |                  |            |
| <i>Correspondence will be sent via US Mail when the email attempt is unsuccessful.</i>  |                                      |               |                |                     |            |                  |            |
| Correspondent Name:   | DALY, CROWLEY, MOFFORD & DURKEE, LLP |               |                |                     |            |                  |            |
| Address Line 1:   | 354 TURNPIKE STREET                  |               |                |                     |            |                  |            |
| Address Line 2:   | SUITE 301A                           |               |                |                     |            |                  |            |
| Address Line 4:   | CANTON, MASSACHUSETTS 02021-2714     |               |                |                     |            |                  |            |
| ATTORNEY DOCKET NUMBER:   | RTN-854PUS                           |               |                |                     |            |                  |            |
| NAME OF SUBMITTER:  | ANTHONY T. MOOSEY                    |               |                |                     |            |                  |            |
| Signature:  | /Anthony T. Moosey/                  |               |                |                     |            |                  |            |
| Date:   | 01/27/2014                           |               |                |                     |            |                  |            |

PATENT

This document serves as an Oath/Declaration (37 CFR 1.63).

**Total Attachments: 4**

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## ASSIGNMENT and DECLARATION

I/we, the undersigned, David G. Manzi, Pranav Patel, Kevin R. Albrecht, Rajesh Kulkarni, Michael C. Brown and Sam M. Daniel ("**Assignor(s)**"), have made certain inventions or discoveries (or both) set forth in an application for Letters Patent of the United States of America entitled, POLYNOMIAL PHASES FOR MULTI-CARRIER MODULATION SCHEMES WITH TIME DOMAIN WINDOWING identified as Attorney /Client Docket No. RTN-854PUS/12-3204-US-NP, which application was filed on January 15, 2013 and assigned Application No. 13/741,765. In the event that the execution date, filing date and/or Application No. are not entered or are incorrect at the time Assignor(s) executed this document, Assignor(s) hereby authorize and request an attorney of Assignee to insert the information or make the correction.

RAYTHEON COMPANY is a Delaware Corporation having a place of business at 870 Winter Street, Waltham, MA 02451-1449, and which, together with its successors and assigns ("**Assignee**"), is desirous of acquiring the title, rights, benefits and privileges hereinafter recited.

For valuable consideration furnished by Assignee to Assignor(s), receipt and sufficiency of which Assignor(s) hereby acknowledge, Assignor(s) hereby, without reservation:

1. Assign, transfer and convey to Assignee the entire right, title and interest in and to said inventions and discoveries, said application, any and all other patent applications (including without limitation utility models, provisionals, designs, plants and any other such intellectual property) on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation, reissue, re-examination and convention applications based in whole or in part upon said inventions or discoveries, or upon said applications, and any and all Letters Patent, reissues, reexaminations, and extensions of Letters Patent granted for said inventions and discoveries or upon said applications, and every priority right that is or may be predicated upon or arise from said inventions, said discoveries, said applications and said Letters Patent and any provisional applications from which priority is claimed in said patent applications and said Letters Patent and all rights to claim or sue for prior damages;

2. Authorize Assignee to file said patent applications in any or all countries on any or all of said inventions and discoveries in the name of Assignor(s) or in the name of Assignee or otherwise as Assignee may deem advisable, under any international conventions, international treaties, or otherwise;

3. Authorize and request the Commissioner of Patents and Trademarks of the United States of America and the empowered officials of all other governments to issue or transfer all said Letters Patent to Assignee, as assignee of the entire right, title and interest therein or otherwise as Assignee may direct;

4. Confirm that Assignor(s) have not knowingly conveyed to others any right in said inventions, discoveries, applications or patents or any license to use the same or to make, use or sell anything embodying or utilizing any of said inventions or discoveries; and

5. Bind heirs, legal representatives and assigns of Assignor(s), as well as Assignor(s), to do, upon Assignee's request, all acts reasonable to assure that said inventions and discoveries, said patent applications and said Letters Patent shall be held and enjoyed by Assignee as fully and entirely as the same could have been held and enjoyed by Assignor(s) or heirs, legal representatives and assigns of Assignor(s) if this assignment had not been made; and particularly to execute and deliver to Assignee all lawful application documents including petitions, specifications, and oaths, and all assignments, disclaimers, and lawful affidavits in form and substance as may be requested by Assignee; to communicate to Assignee all facts known to Assignor(s) relating to said inventions and discoveries or the history thereof; and to furnish Assignee, upon request, with any and all relevant documents, photographs, models, samples and other physical exhibits in control of Assignor(s) or in the control of heirs, legal representatives or assigns of Assignor(s).

Assignor(s) accept the terms of this Assignment as indicated by their signature below.

Further, each Assignor individually, as a named inventor, hereby declares:

- a) The above-identified application was made or authorized to be made by me;
- b) I believe I am the original inventor or an original joint inventor of a claimed invention in the above-identified application; and
- c) I hereby acknowledge that any willful false statement made in this declaration is punishable under § 1001 of Title 18 of the United States Code by fine or imprisonment of not more than five (5) years, or both.

Each Assignor individually, as a named inventor, also states:


I have reviewed and understand the contents of the above-identified application.

I acknowledge the duty to disclose to the United States Patent Office all information known to me to be material to the patentability of the above-identified application.

*[Signatures on following pages]*

Accepted by:

Dated: 1/14/2013

  
\_\_\_\_\_  
Sam M. Daniel

**Witnessed by:**

Dated: 1/14/2013

  
\_\_\_\_\_  
First Witness Signature

Ghassan Maalouli  
\_\_\_\_\_  
First Witness Printed Name

Dated: 1/14/2013

  
\_\_\_\_\_  
Second Witness Signature

STEPHEN J. WEST  
\_\_\_\_\_  
Second Witness Printed Name

282471


Accepted by:

Dated: 10/4/13

  
Michael C. Brown


Witnessed by:

Dated: 10/4/13

  
First Witness Signature

DAVID E. DROUET  
First Witness Printed Name

Dated: 10-4-13

  
Second Witness Signature

JEFFREY T. ROBERTS  
Second Witness Printed Name