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To the Assistant Commissioner for Patents: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Xinying Zhang

Additional name(s) of conveying party(ies) attached? []Yes [X]No

3. Nature of Conveyance:

[X] Assignment

[]Merger

[]Security Agreement

[]Change of Name

2. Name and address of receiving party(ies):

IEET

Name: Mitsubishi Electric Information Technology Center America, Inc.

Street Address: 201 Broadway

City: Cambridge State: MA Zip: 02139

Additional name(s) and address(es) attached? []Yes [X]No

Execution Dates: 07/31/2003

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s) 10/629,240

Additional numbers attached? []Yes [X]No

6. Total number of applications and patents involved: [1]

7. Total fee (37CFR 3.41): \$40.00

Name: Mitsubishi Electric Information Technology Center America, Inc.

should be mailed:

Street Address: 201 Broadway

City: Cambridge State: MA Zip: 02139

5. Name and address of party to whom

correspondence concerning document

[] Enclosed

[X] Authorized to be charged to

deposit account

8. Deposit account number: 50-0749

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Statement and signature.

To the best of my knowledge and belief, correct and any attached copy is a true copy

going information is true and _document.

Andrew J. Curtin Name of Person Signing

Signature

Total number of pages comprising cover sheet:

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> **PATENT** REEL: 014464 FRAME: 0462

Date

[1]

ASSIGNMENT

WHEREAS, I, have made certain inventions or discoveries (or both) set forth in an Application for Letters Patent of the United States of America entitled RF SIGNAL PROCESSING IN MULTI-ANTENNA SYSTEMS the specification of which:

- was executed by me on the date indicated below;
- X was filed on July 29, 2003 as Application
 Serial No. 10/629,240;
- was patented under U.S. Patent No. __ on __;

WHEREAS, Mitsubishi Electric Research Laboratories, Inc., a corporation of the State of Delaware, whose address is 201 Broadway, Cambridge, Massachusetts 02139, and who, together with its successors and assigns is hereinafter called "Assignee", is desirous of acquiring the entire right, title, and interest together with the benefits and privileges hereinafter recited;

NOW, THEREFORE, for valuable consideration furnished by Assignee to me, receipt and sufficiency of which I hereby acknowledge, I hereby, without reservation;

- Assign, transfer and convey to Assignee the entire right, title and interest together with the benefits and privileges in and to said inventions and discoveries, said Application for Letters Patent or similar forms of protection of the United States of America, and all other applications for Letters Patent on said inventions and discoveries in whatsoever countries, including all divisional, renewal, substitute, continuation and convention applications based in whole or in part upon said inventions or discoveries, or upon said application, and any and all Letters Patent, reissues and extensions of Letters Patent or similar forms of protection 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:
- 2. Authorize Assignee to file patent applications in any or all countries or groups of countries on any or all of said inventions and discoveries in my name or in the name of

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MERL-1478

Assignee or otherwise as Assignee may deem advisable, under the International Convention or any other relevant convention or treaty or otherwise;

- 3. Authorize and request the Assistant Commissioner for Patents 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. Warrant that I have not knowingly conveyed to others any rights 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 that I have good right to assign the same to Assignee without encumbrance;
- Bind my heirs, legal representatives and assigns, as well as myself, to do, upon Assignee's request and at Assignee's expense, but without additional consideration to us or them, all acts reasonable serving 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 us, my heirs, legal representatives and assigns 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 us relating to said inventions and discoveries or the history thereof; and to furnish Assignee with any and all documents, photographs, models, samples and other physical exhibits in my control or in the control of my heirs, legal representatives or assigns which may be useful for establishing any facts of my conceptions, disclosures, and reduction to practice of said inventions or discoveries.

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	Inventor Signature	: Andreas	Molisch	
	Today's Dat	e:		
Date Invent	tor Signed Declaration	:		
Witnessed:	Printed Name			
Signature			Date	
Witnessed:	Printed Name			
Signature			 Date	

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PATENT REEL: 014464 FRAME: 0465

	Inventor Signature	: Sun	Yuan	Kung
	Today's Dat			
Date Invent	tor Signed Declaration	ŧ		<u></u>
Witnessed:	Printed Name		_	
Signature				Date
Witnessed:	Printed Name			
Signature			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	 Date

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ASSIGNTE.FRM

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PATENT REEL: 014464 FRAME: 0466

Inventor Signature	: My Mary Xinying Zhang
Today's Date	e: 7-31-03
Date Inventor Signed Declaration	:7-31-03
Witnessed: TAT KEE TAW Printed Name	7/30/2003
Signature	Date
Witnessed: Chad Myers Printed Name	
Clod Municipal Signature	7/31/2003 Date

	Invent	or Signature	Jinyun	Zhang	
		Today's Date	e :		
Date Invent	cor Signed	Declaration	:		
Witnessed:	Printed Na	me			
Signature				Date	
Witnessed:	Printed Na	me			
Signature				Date	

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RECORDED: 09/08/2003

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