Form PTO-1595 10 - 1	U.S. Department of Commerce				
(Rev. 6-93) RECC	SHEET Patent and Trademark Office				
ОМВ 140. 0001-0011 (вхр. 4/94)	/ 0 1 OO				
To the Honorable Commissioner of Patents .	481578 1 original documents or copy thereof.				
1. Name of conveying party(ies):	2. Name and address of receiving party(ies):				
Donald P. Hutchinson Marcus L. Simpson	Name: UT-BATTELLE, LLC				
John T. Simpson	Internal Address:				
Additional name(s) of conveying party(ies) attached? □Yes ⊠No	Street Address: 111-B Union Valley Road P.O. Box 2008				
3. Nature of conveyance:	Oak Ridge, TN 37831-6498				
☐ Merger ☐ Merger					
☐ Security Agreement ☐ Change of Name	Additional name(s) & address(es) attached? □ Yes 🖾 No				
Execution Date: September 13, 2000					
4. Application number(s) or patent number(s): If document is being filed with a new application, the ex	ecution date of the application is: September 13, 2000				
A. Patent Application No.(s)	B. Patent No.(s)				
	09 667 178				
Additional numbers a	· · · · · · · · · · · · · · · · · · ·				
Name and address of party to whom correspondence concerning document should be mailed:	6. Total number of applications and patents involved:				
Name: Gregory A. Nelson, Esq.	7. Total Fee (37 CFR 34)\$40.00				
Internal Address:	⊠ Enclosed				
	☐ Authorized to be charged to deposit account				
Street Address: QUARLES & BRADY LLP	8. Deposit account number				
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9. Statement and signature					
To the best of my knowledge and belief, the foregoing is copy of the original document.	information is true and correct and any attached copy is a true				
- I State	9/1/10				
Neil R. Jetter, Reg. No. 46,803	Date Total number of pages including cover sheet: 5				

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents and Trademarks, Box Assignments
Washington, D.C. 20231

REEL: 011129 FRAME: 0202

ASSIGNMENT

WHEREAS, I, the below-named inventor whose residence and post office is as stated below, have invented certain new and useful improvements in an

TRANSVERSE-LONGITUDINAL INTEGRATED RESONATOR

(hereinafter referred to as "Subject Invention") for which an application for United States Letters Patent was executed by me on even date herewith, and

WHEREAS, UT-BATTELLE, LLC, a limited liability company of the State of Tennessee, having an office at 111-B Union Valley Road, P.O. Box 2008, Oak Ridge, Tennessee 37831-6498 (hereinafter referred to as "ASSIGNEE"), is desirous of acquiring the right, title, and interest of the undersigned in the Subject Invention and to any Letters Patent that may be granted therefor in the United States of America and in any and all foreign countries.

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, I hereby assign to ASSIGNEE my entire right, title, and interest in the Subject Invention, to all rights of priority thereto pursuant to the International Convention for the Protection of Industrial Property, and in any Letters Patent on the Subject Invention that may be granted in the United States of America and in any and all foreign countries, including any and all Letters Patent that are divisions, reissues, continuations, substitutions or extensions of any Letters Patent or applications therefor on the Subject Invention.

I hereby authorize and request the Commissioner of the United States Patent and Trademark Office and the officials of any and all foreign countries to issue any and all of said Letters Patent, when granted, to the ASSIGNEE.

Further, I hereby agree to communicate to said ASSIGNEE or its representatives any facts known to me respecting said Subject Invention, to testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, substitution, renewal and reissue applications, to execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to said ASSIGNEE, and to make all rightful oaths and generally do everything possible to aid said ASSIGNEE and its representatives to obtain and enforce proper protection for said Subject Invention in the United States of America and in any and all foreign countries.

I further agree that the terms, covenants and conditions of this assignment shall inure to the benefit of ASSIGNEE, its successors, assigns, and legal representatives, and shall be binding on me, my heirs, legal representatives, and assigns.

QBWPB1 \65763.

PATENT REEL: 011129 FRAME: 0203

Full name of first inventor: Donald P. HUTCHINSON					
Signature: Donald V. Milauran Date: 9/13/2000					
Residence: 909 Woodsmoke Circle, Knoxville, TN 37922					
Post Office Address: 909 Woodsmoke Circle, Knoxville, TN 37922					
State of Tennessee County of Roane On this 13 day of September, 2000, before me, a Notary Public in and for the County and State aforesaid, appeared Donald P. Hutchinson, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.					
WITNESS my hand and seal the day and year last above given. Notary Public					
SEAL My Commission Expires: August 16, 2004					

QBWPB1 \65763.

Full name of second inventor: Marcus L. SIMPSON
Signature: Date: 9/13/2000
Residence: 240 Wells Fargo Drive, Knoxville, TN, 37922
Post Office Address: 240 Wells Fargo Drive, Knoxville, TN, 37922
On this 13 day of September, 2000, before me, a Notary Public in and for the County and State aforesaid, appeared Marcus L. Simpson, to me personally known to be the same person whose name is subscribed to the foregoing instrument, and acknowledged that he executed said instrument as his free and voluntary act and for the uses and purposes therein expressed.
WITNESS my hand and seal the day and year last above given. Spicer Notary Public

QBWPB1 \65763.

SEAL

SEAL My Commission Expires: August 16, 2004

Full name of third inve	ntor: John T. SIMPSON				
Signature: Gla T	Singson	<u>-</u>	Date:	1/13/20	000
Residence:	201 Lawton Boulevard, Kno	oxville, TN, 37	7922		
Post Office Address:	201 Lawton Boulevard, Kno	oxville, TN, 37	7922		
subscribed to the forego	by of September, 2000 and John T. Simpson, to me per poing instrument, and acknowled uses and purposes therein e	edged that he		own porcon	· · · · · · · · · · · · · · · · · · ·
WITNESS my h	and and seal the day and year American Notary Public	0.	ven.		

SEAL
My Commission Expires: August 16, 2004

QBWPB1 \65763.

RECORDED: 09/21/2000

PATENT REEL: 011129 FRAME: 0206