			Case No.: 58391US002			
	RECORDATION FORM COVER SHEET PATENTS ONLY					
To: The Honorable Commissioner of Patents and Trademarks						
Please record the attached original document(s) or copy thereof.						
1. Name of conveying party(les	lame of conveying party(les)/(Execution Date)		2. Name and address of receiving party(ies):			
Fan, Xudong	November 3, 2003		- The state of the			
Potts, John E.	November 14, 2003		3M Innovative Properties Company			
Smith, Terry L.	November 14, 2003		P.O. Box 33427			
Wilson, Robert L.	November 3, 2003		St. Paul, Minnesota 55133-3427			
			A 1 MM			
Additional names of conveying party(id	! ≎s) attached?		Additional names of receiving party(les) attached? Yes No			
☐ Yes ☒ No			☐ res ☑ No			
3. Nature of Conveyance:	. Managar					
	Merger Change of Name					
Other:	g Gronge of Hume					
If this is a request for correction of a previou]					
préviously recorded assignment and previo	ection of a previously recorded document, a copy of the ament and previous Notice of Recordation is enclosed.					
4. Application number or patent	number:					
This document is being filed conte	emporaneously with a new	w patent ap;	plication.			
This document is to be recorded a Enter Patent Cooperation Treaty	This document is to be recorded against the following patent application or patent: 10/685049 Enter Patent Cooperation Treaty (PCT) application number only if a USSN has not been assigned:					
and and alone ocoporation () oddy	Additional Numbers Attached? Yes No					
Name and address of party to will concerning document should be		1	number of applications			
Name: Gregg H. Rosenblat		and p	atents involved:			
Office of Intellectual Property	Counsel					
3M Innovative Properties Co.	npany kas					
Phone Number: (512) 984-7	443					
32692		7. Total	fee (37 CFR § 3.41): \$40.00			
			Enclosed			
Customer Numbe	fr 	oxtimes	Authorized to be charged to deposit account			
•		8. Depos	sit Account Number: 13-3723			
			10-0120			
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9. Statement and Signature	9. Statement and Signature					
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document. Charges to deposit account are authorized, as indicated herein.						
Printed Name of Attorney/Agent:	account are appronized, as indicated herein.					
Gregg H. Rosenblatt	7/05/04					
Registration No.: 45,056 Signature Date						
Pages: Total number of pages including COVER SHEET, attachments and documents						

Mail documents to be recorded with required cover sheet information to:
Mail Stop Assignment Recordation Services
Director of the United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

PATENT REEL: 014309 FRAME: 0762

Case No.: 58391US002

ASSIGNMENT OF APPLICATION

invention in	ned inventor(s), with residence and citiz	enship as indicated below, have made an			
H	YBRID SPHERE-WAVEGUIDE RES	ONATORS			
for which an application for a for which an application for a October 14, 2003;	United States Patent is being filed contemporaneously herewith; United States Patent identified as U.S. Patent Application No. 10/685049; was filed on as PCT International Patent Application No. filed;				
wholly-owned subsidiary of 3M of Minnesota, its successors and as and in and to any division or dimprovements in the said invention during, or within one year after the subsidiaries), and in and to any a States of America and countries Inventors' Certificates in foreign of to which such applications are emay be granted thereon or on an other or further application based enjoyed as fully and exclusively a liwe do further agree for my deliver without further consideration acts as I/we lawfully may, that me fully to secure its right, title, and Inventors' Certificates in any and I/we do hereby authorize and be granted upon any of the said entire right, title, and interest there In witness whereof, I/we have	coy assign and transfer unto the 3M DOMPANY, and a corporation of Delaw signs, the entire right, title, and interest continuation (in whole or in part) of son made by me or made jointly with other termination of, my employment by 3M and all Letters Patent, reexaminations, reforeign thereto (including the right to countries in its own name and to claim a antitled under international conventions, my divisional, continuation (in whole or in whole or in part upon the said inventions they would have been by me/us had the self/ourselves and for my/our heirs, expon any further applications, assignmenting be deemed necessary by said Compliant in the countries; and request the Commissioner of Patents the applications, to said 3M Innovative Response.	which is acknowledged, I/we have agreed to INNOVATIVE PROPERTIES COMPANY, a ware, having its principal office at Saint Paul, it in and to the said invention and application, said application, and in and to any and all ers (provided any such improvement is made of COMPANY and any of its existing or future reissues, or extensions thereof, of the United of apply for Letters Patent, Utility Models, or any priority rights for such foreign applications are treaties, or otherwise), which have been or in part), renewal, reexamination, reissue, or this assignment and transfer not been made; accutors, and administrators, to execute and shis assignment and transfer not been made; and documents, and to perform such other pany, its successors, assigns, and nominees, or maintain Letters Patent, Utility Models, or its successors, assigns, and remain the properties Company, as the assignee of the lyear set forth below.			
Given Name (first and middle [jf any]): XUDONG	Family Name or FAN	Surname:			
Inventor's Signature:	Date:				
Stilling Ean	11-03-	2003			
Residence: (/ / Austin, Texas	Country: USA	Citizenship: China			
STATE OF TEXAS) ss. COUNTY OF TRAVIS) On this 3 day of	the foregoing instrument, as said person's fi	e me personally appeared the above-named			

Assignment

(Seal)

PATENTese No.: 58391US002

REEL: 014309 FRAME: 0763

Mary Villegas Notary Public, State of Texas My Copymission Expires MARCH 05, **2005**

Given Name (first and middle [if any]): JOHN E.	Family Name or Sum POTTS	ame:
Inventor's Signature:	Date:	.//. ~
Residence Residence	Country:	Citizenship:
Woodbury, Minnesota STATE OF MINNESOTA	USA	United States of America
COUNTY OF RAMSEY)		
On this 14/12 day of Marsem has	, <u>2003</u> , before me	personally appeared the above-named
JOHN E. POTTS, and who executed the foregoing instraforesaid.	rument, as said person's frei	e act and deed, on the day and year
(Seal) CYNTHIA LI WEST S	Cynthia	S. West_
My Comm. Expires Jen. 31 2005	NOGRY Public	
Given Name (first and middle [if any]): TERRY L.	Family Name or Surna	ame:
Inventor's Signature:	Date:	
Residence:	Country:	3-003
Roseville, Minnesota	USA	Cltizenship: United States of America
STATE OF MINNESOTA)) ss.		
COUNTY OF RAMSEY) On this 1442 day of 1000ember	2003 hefore mo	personally appeared the above-named
TERRY L. SMITH, and who executed the foregoing inst aforesaid.	roment, as sald persons fre	act and deed, on the day and year
(Seal)	Cepteria	S. West
	Notag/ Public	
Given Name (first and middle [if any]): ROBERT W.	Family Name or Surna	me:
Inventor's Signature:	WILSON Date:	
Residence:	1/3/200	23
Austin, Texas	Country: USA	Citizenship: United States of America
STATE OF TEXAS)) ss.		- Villelioa
On this 3 day of 100m ben		
ROBERT W. WILSON, and who executed the foregoing year aforesaid.	instrument, as said person's	personally appeared the above-named afree act and deed, on the day and
(Seal) Mary Villegas	What Il.	Mean)
Notary Villegas Notary Public, State of Texas My Commission Expires	Notary Public	11/3/03
MARCH 05, 2005	•	

PATEN Jse No.: 58391US002 REEL: 014309 FRAME: 0764

3M Innovative Prope Office of Intellectual		3M Center, 6801 River Place Blvd., Austin, TX 78726-9000 USA			
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To: Mail Stop Ass Commissioner Alexandria, V Your Ref: 10/685049 Phone: *8-703-308-9' Fax No. *8-703-306-5	for Patents A 723	From: Gregg H. Rosenblatt 3M IP Co. OIPC Austin, Texas 78726-9000 Our Ref: 58391US002 Phone: 512-984-7443 Fax No. 512-984-2020			
Remarks: Urgent Acknowledge Reply ASAP Please Comment Attached is an Assignment (with Recordation Cover Sheet) for recording in the subject application. Thank you.					

RECORDED: 02/05/2004

PATENT REEL: 014309 FRAME: 0765