Patent and Trademark Office	PATENT Attorney Docket No. 200230
13.13.03 E	
TO: The Commissioner of Patents and Trade 10158	document(s) or copy(ies).
1. Submission Type	2. Nature of Conveyance:  Assignment Security Agreement  License Change of Name  Merger Other:
3. Conveying Party(ies):	additional names of conveying parties attached.
Name Yimin Jiang Name Robert Richmond Name Farhad Verahrami Name	Execution Date: 12/8/2000 (m/d/yyyy)  Execution Date: 12/11/2000 (m/d/yyyy)  Execution Date: 12/11/2000 (m/d/yyyy)  Execution Date: (m/d/yyyy)
4. Receiving Party: Name: Hughes Electronics Corporation Address: 200 North Sepulveda Blvd. El Segundo, CA 90245-0956	5. Correspondent Name and Address: Name: Hughes Electronics Corporation Address: Patent Docketing Administration P.O. Box 956 Bldg. 1, Mail Stop A109 El Segundo, CA 90245-0956  Please associate this document and the attached documents with customer no. 020991.
6. Application Number(s) or Patent Number(s):	Mark if additional numbers attached.
Either enter the Patent Application Number or the Patent Number (DO Patent Application Number(s)	NOT ENTER BOTH numbers for the same property). Patent Number(s)
If this document is being filed together with a $\underline{\text{new}}$ Patent Application, application was executed by the first named inventor.	enter the date that the patent 12/8/2000 (m/d/yyyy)
7. Patent Cooperation Treaty (PCT) Numbers:	
Enter PCT application number(s)  only if a U.S. Application Number has not been assigned.  PCT	PCT PCT PCT PCT
8. Number of Properties: Enter the total num	nber of properties involved: 1.
Method of Payment:   Enclosed   Depos	ted properties (37 CFR 3.41): \$ 40.00 sit Account Deposit Account No. 50-0383 rization to charge additional fees: ⊠ Yes ☐ No
Statement and signature:     To the best of my knowledge and belief, the foregoing inform the original document. Charges to deposit account are automated.	
Craig L. Plastrik, Reg. No. 41,254	13 December 2000
Name of Person Signing	Signature Date  Total number of pages comprising cover sheet: 1



### ASSIGNMENT

Page 1 of 3

Attorney Docket No: PD-200230

WHEREAS, I, as below named sole inventor (if only one name is listed below) or joint inventor (if plural names are listed below) of the city and state as stated below next to my name, have invented a **Robust Carrier Identifying**Method And Apparatus For Bandwidth-On-Demand (BOD) System:

for which application for Letters Patent of the United States has been executed by me on this day; or
which is embodied in U.S. Patent Application Serial No filed on

WHEREAS, **HUGHES ELECTRONICS CORPORATION**, (hereinafter referred to as **HUGHES**), a Delaware Corporation, having its principal place of business in El Segundo, California, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to HUGHES. its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-inpart, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said HUGHES, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to HUGHES, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by HUGHES, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming. recording and maintaining the title of HUGHES, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in HUGHES, its successors, assigns or other legal representatives.

ASSIGNMENT Page 2 of 3 Attorney Docket No: PD-200230

### IN WITNESS WHEREOF, I have executed this instrument:

Full Name of Sole or Joint Inventor:	Inventor's Signature:	Date:
Yimin Jiang	he was	12000
Residence (City and State)		INVENTION AGREEMENT DATE
Rockville, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Robert Richmond		
Residence (City and State)		INVENTION AGREEMENT DATE
Gaithersburg, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Farhad Verahrami		
Residence (City and State)		INVENTION AGREEMENT DATE
North Potomac, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Residence (City and State)		INVENTION AGREEMENT DATE
	,	
STATE OF	) SS:	
COUNTY OF		
On before me,		,
a Notary Public in and for said State, personally appea ☐ personally known to me or ☐ proved to me on the	basis of satisfactory evidence to be the person(	s) whose name(s) is/are subscribed to the
within instrument and acknowledged to me that he/she signature(s) on the instrument the person(s), or the entire that he/she signature(s) are the signature (s).	ity upon behalf of which the person(s) acted, ex	ecuted the instrument.
WITNESS my hand and official seal.	Notary Public	
STATE OF	) } ss:	
COUNTY OF		
On before me,		
a Notary Public in and for said State, personally appea ☐ personally known to me or ☐ proved to me on the	hasis of satisfactory evidence to be the person(	s) whose name(s) is/are subscribed to the
within instrument and acknowledged to me that he/she signature(s) on the instrument the person(s), or the entire the person of the signature o	/they executed the same in his/her/their author	ized capacity(ies), and that by his/her/their
WITNESS my hand and official seal.	Notary Public	

ASSIGNMENT Page 3 of 3 Attorney Docket No: PD-200230

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Notary Public
) ) ss:
)
he basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their entity upon behalf of which the person(s) acted, executed the instrument.
Notary Public
)
) SS: 
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entity upon behalf of which the person(s) acted, executed the instrument.



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Page 1 of 3

Attorney Docket No: PD-200230

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which is embodied in U.S. Patent Application Serial No filed on

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NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to HUGHES. its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-inpart, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said HUGHES, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to HUGHES, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by HUGHES, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of HUGHES, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in HUGHES, its successors, assigns or other legal representatives.

ASSIGNMENT Page 2 of 3 Attorney Docket No: PD-200230

# IN WITNESS WHEREOF, I have executed this instrument:

Full Name of Sole or Joint Inventor:	Inventor's Signature:	Date:
Yimin Jiang		
Residence (City and State)		INVENTION AGREEMENT DATE
Rockville, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date: /
Robert Richmond	hobert (1). Dickmu	12/11/00
Residence (City and State)		INVENTION AGREEMENT DATE
Gaithersburg, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Farhad Verahrami		
Residence (City and State)		INVENTION AGREEMENT DATE
Gaithersburg, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Residence (City and State)		INVENTION AGREEMENT DATE
STATE OF MARY LAND  COUNTY OF Howard  On December 11, 2000 before me, _ a Notary Public in and for said State, personally ap  Appersonally known to me or proved to me on within instrument and acknowledged to me that he signature(s) on the instrument the person(s), or the  WITNESS my hand and official seal.	the basis of satisfactory evidence to be the she'she'she's executed the same in his/her/their entity upon behalf of which the person(s) a Notary Public	authorized capacity(ies), and that by his/he
STATE OF	) SS: )	
On before me, _		
a Notary Public in and for said State, personally appersonally known to me or proved to me on within instrument and acknowledged to me that he signature(s) on the instrument the person(s), or the	the basis of satisfactory evidence to be the s/she/they executed the same in his/her/thei	authorized capacity(ies), and that by his/he
WITNESS my hand and official seal.	Notary Public	

ASSIGNMENT Page 3 of 3 Attorney Docket No: PD-

STATE OF	)
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WITNESS my hand and official seal.	Notary Public
STATE OF	)
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WITNESS my hand and official seal.	Notary Public
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a Notary Public in and for said State, personally appeared _	
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Farhad Verahrami	Janes	12/11/00
Residence (City and State)		INVENTION AGREEMENT DATE
Gaithersburg, Maryland		
Full Name of Joint Inventor:	Inventor's Signature:	Date:
Residence (City and State)		INVENTION AGREEMENT DATE
STATE OF	) SS:	
COUNTY OF		
On before me, _		
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ASSIGNMENT Page 3 of 3 Attorney Docket No: PD-

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**RECORDED: 12/13/2000**