PATENT ASSIGNMENT

Electronic Version v1.1 Stylesheet Version v1.1

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
Lawrence H. Zuckerman	08/18/2011
Perry I. Tsao	08/17/2011
Thomas Yang	08/17/2011
Keiichi McGuire	08/19/2011
Chenguang Gong	08/19/2011
Ravichander Bairi	08/18/2011

RECEIVING PARTY DATA

Name:	National Semiconductor Corporation
Street Address:	2900 Semiconductor Drive
City:	Santa Clara
State/Country:	CALIFORNIA
Postal Code:	95051

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	13198498

CORRESPONDENCE DATA

Fax Number: (972)628-3616 **Phone**: 972.628.3600

Email: patents@munckcarter.com

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent

via US Mail.

Correspondent Name: Munck Carter/NSC
Address Line 1: P.O. Drawer 800889
Address Line 4: Dallas, TEXAS 75380

NAME OF SUBMITTER: William A. Munck

PATENT

REEL: 027081 FRAME: 0129

Total Attachments: 6
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PATENT REEL: 027081 FRAME: 0130

Whereas, IWe, Lawrence H. Zuckerman of Livermore, California hereafter referred to as applicant, have invented certain new and useful improvements in DISTRIBUTED MODEM ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS To which an application for a United States Patent was filled on August 4, 2011 Application Number 13/198.498	ASSIGNMENT OF APPLICATION		Docket Number (Optional)	
referred to as applicant, have invented certain new and useful improvements in DISTRIBUTED MODEM ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS AND OTHER WIRED To which an application for a United States Patent was filed on August 4, 2011 Application Number 13/198.498 for which an application for a United States Patent was executed on and Whereas, National Semiconductor Comporation of Santa Clara, California here referred to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is desirous of acquiring the entire right, title and interest in the same; Now, therefore, in consideration of the sum of			P07737	
ARCHITECTORES FOR POWER LINE COMMUNICATION SYSTEMS Of which an application for a United States Patent was filed on August 4, 2011 Application Number 13/198,498 of or which an application for a United States Patent was executed on, and whereas, National Semiconductor Comporation of Santa Clara, California here referred to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is desirous of acquiring the entire right, title and interest in the same; Now, therefore, in consideration of the sum of Two	Whereas, I/We, Lawrence H. Zuckerman of Liverm	nore, Califor	rnia, hereafter	
Application Number 13/198,498 for which an application for a United States Patent was executed on	ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEM	ements in _ IS AND OTI	DISTRIBUTED MODEM HER WIRED	
Whereas, National Semiconductor Corporation of Santa Clara, California here referred to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is desirous of acquiring the entire right, title and interest in the same; Now, therefore, in consideration of the sum of Two dollars (\$ 200), the receipt whereof is acknowledge, and other good and valuable consideration, IWe, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patients which may be granted therefore in the said United States. IWe hereby authorize and request the Director of the U.S. Patent and Trademark Office to issued United States. IWe hereby authorize and request the Director of the U.S. Patent and Trademark Office to issued United States. IWe hereby authorize and request the Director of the U.S. Patent and Trademark Office to issued United States. IWe and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. Executed this	for which an application for a United States Patent was filed on \underline{P}	August 4, 20	011	
Whereas, National Semiconductor Corporation of Santa Clara, California here referred to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is desirous of acquiring the entire right, title and interest in the same; Now, therefore, in consideration of the sum of	Application Number <u>13/198,498</u> .			
to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is desirous of acquiring the entire right, title and interest in the same; Now, therefore, in consideration of the sum of	for which an application for a United States Patent was executed	d on	, and	
Now, therefore, in consideration of the sum of Two_dollars	Whereas, National Semiconductor Corporation of Santa Clara, California		here referred	
Now, therefore, in consideration of the sum of Two dollars (\$ 2.00), the receipt whereof is acknowledge, and other good and valuable consideration, IWe, the applicant(\$), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. IWe hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States. Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. Executed this	to "assignee" whose mailing address is 2900 Semiconductor Drive, Sa	ınta Clara, (California 95051 is	
acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States. I/We hereby authorize and request the United States. I/We hereby authorize and request the United States. I/We hereby authorize and for the use and behoof, and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. Executed this	desirous of acquiring the entire right, title and interest in the same;			
State of California Signature Signature Lawrence H. Zuckerman Printed Name/Registration No., if applicable Before me personally appeared said Lawrence H. Zuckerman and acknowledged the foregoing instrument to be his free act and deed this Standard Commission # 1943322 Notary Public - California Santa Clara County My Comm. Expires Jul 8, 2015 Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, See below.	acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.			
State of California SS: Printed Name/Registration No., if applicable Before me personally appeared said Lawrence H. Zuckerman and acknowledged the foregoing instrument to be his free act and deed this	at		·	
and acknowledged the foregoing instrument to be his free act and deed this	State of California)	Lawren	acure	
day of August, 20 11. Seal August, 20 11. Seal August, 20 11. Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, See below*.	Before me personally appeared saidLawrence H. Zuckerman			
	day of August, 20 11 Seal August, 20 11 KAREN L. METZ Commission # 1943322 Notary Public - California Santa Clara County My Comm. Expires Jul 8, 2015 Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if			

ASSIGNMENT OF APPLICATION		Docket Number (P0	(Optional) 7737
Whereas, I/We, Perry I. Tsao	of <u>Sunnyvale,</u> C	alifornia	, hereafter
referred to as applicant, have invented certain new and useful improvements in DISTRIBUTED MODEM ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS			
for which an application for a United States Patent v	was filed on August	4, 2011	
Application Number 13/198,498			
for which an application for a United States Patent v	was executed on		, and
Whereas, National Semiconductor Corporation of Santa Cla	ra, California		here referred
to "assignee" whose mailing address is 2900 Semiconduc	ctor Drive, Santa Cla	ıra, California 9509	51 is
desirous of acquiring the entire right, title and interest in t	he same;		
Now, therefore, in consideration of the sum of Two dollars (\$ 2.00), the receipt whereof is acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made. Executed this			
at			
State of <u>California</u>) State of <u>Sinta Care</u>	Pe	Signature erry I. Tsao egistration No., if	
Before me personally appeared said Perry I. Tsao			
and acknowledged the foregoing instrument to be his free act and deed this/7+/			
Seal Acar Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, See below*.			
/ Total of 6 forms are submitted.			

ASSIGNMENT OF APPLICATION		Docket Number (Optional)	
		P07737	
Whereas, I/We, Thomas Yang	of Milpitas, Calif	ornia , hereafter	
referred to as applicant, have invented certain new and useful improvements in DISTRIBUTED MODEM ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS			
for which an application for a United States Patent w	vas filed on August	4, 2011	
Application Number <u>13/198,498</u> .			
for which an application for a United States Patent w	vas executed on	, and	
Whereas, National Semiconductor Corporation of Santa Clara	a, California	here referred	
to "assignee" whose mailing address is 2900 Semiconduc	tor Drive, Santa Cla	ra, California 95051 is	
desirous of acquiring the entire right, title and interest in the	ne same;		
Now, therefore, in consideration of the sum of Two dollars (\$ 2.00), the receipt whereof is acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.			
Executed thisday of	August	, 20 <u>+ t</u>	
State of Colitonia) County of Earth (lawn ss:		Signatura omas Yang legistration No., if applicable	
Before me personally appeared said			
and acknowledged the foregoing instrument to be his free act and deed this			
/ Total of 6 forms are submitted			

ASSIGNMENT OF APPLICATION	ON	Docket Number (C	
Whereas, I/We, Keiichi McGuire	of San Jose, Ca	lifornia	_, hereafter
referred to as applicant, have invented certain new and ARCHITECTURES FOR POWER LINE COMMUNICAT COMMUNICATION SYSTEMS	useful improvements TON SYSTEMS AND	in DISTRIBUTED OTHER WIRED	MODEM
for which an application for a United States Patent	was filed on August	4, 2011	
Application Number 13/198,498	·		
for which an application for a United States Patent	was executed on		, and
Whereas, National Semiconductor Corporation of Santa Cla	ara, California		ere referred
to "assignee" whose mailing address is 2900 Semicondo	uctor Drive, Santa Cla	ra, California 95051	is
desirous of acquiring the entire right, title and interest in	the same;		
Now, therefore, in consideration of the sum of Two-acknowledge , and other good and valuable consideration and transfer unto said assignee the full and exclusive rights, title and interest in and to any and all Patents whereby authorize and request the Director of the U.S. Patent to said assignee, of the entire right, title, and interest for the use and behoof of his legal representatives, to granted, as fully and entirely as the same would have made. Executed this	n, I/We, the applicant ght to the said invention thich may be granted Patent and Trademarierest in and to the said the full end of the been held by me had	(s), by these preser on in the United Startherefore in the Urik Office to issue some, for his sole use term for which said this assignment a	nts do sell, assign tes and the entire hited States. I/We aid United States and behoof; and d Patent may be and sale not been
	Fil.	Signature	
State of <u>California</u>) County of <u>Santa Claus</u> SS:	Ke	iichi McGuire egistration No., if a	oplicable
Before me personally appeared said Keiichi McGuire		ž	-,-,-
and acknowledged the foregoing instrument to be his free day of, 20 11 Seal, 20 11 Note: Signatures of all the inventors or assignees of record of the entire more than one signature is required, See below*.	VANCE	KAREN L. METZ Commission # 1943 Notary Public - Calif Santa Clara Coun My Comm. Expires Jul tative(s) are required. St	3322
[c] Total of G. Green are submitted			

Whereas, I/We, Chenguang Gong of Santa Clara, California , hereafter referred to as applicant, have invented certain new and useful improvements in ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS			
ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED			
l			
for which an application for a United States Patent was filed on August 4, 2011			
Application Number 13/198,498			
for which an application for a United States Patent was executed on, and			
Whereas, National Semiconductor Corporation of Santa Clara, California here referred			
to "assignee" whose mailing address is 2900 Semiconductor Drive, Santa Clara, California 95051 is			
desirous of acquiring the entire right, title and interest in the same;			
Now, therefore, in consideration of the sum of Two dollars (\$ 2.00), the receipt whereof is acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.			
Executed this (9th day of August, 20 11			
at			
State of California) Chenguang Gong			
State of Carl Vervice) Chenguang Gong SS: Printed Name/Registration No., if applicable			
Before me personally appeared said Chenguang Gong			
and acknowledged the foregoing instrument to be his free act and deed this			
day of August, 20 11 Seal Hau L Mary Public - California Santa Clara County My Comm. Expires Jul 8, 2015			
Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple form more than one signature is required, See below*.	ns if		

ASSIGNMENT OF APPLICATION	P07737		
Whereas, I/We, _Ravichander Bairiof _E	Bangalore, Karnataka, India, hereafter		
referred to as applicant, have invented certain new and useful improvements in _DISTRIBUTED MODEM ARCHITECTURES FOR POWER LINE COMMUNICATION SYSTEMS AND OTHER WIRED COMMUNICATION SYSTEMS			
for which an application for a United States Patent was filed	d on August 4, 2011		
Application Number <u>13/198,498</u>			
for which an application for a United States Patent was exe	ecuted on, and		
Whereas, National Semiconductor Corporation of Santa Clara, Califo	ornia here referred		
to "assignee" whose mailing address is 2900 Semiconductor Driv	ve, Santa Clara, California 95051 is		
desirous of acquiring the entire right, title and interest in the same	e;		
Now, therefore, in consideration of the sum of Two dollars (\$ 2.00), the receipt whereof is acknowledge, and other good and valuable consideration, I/We, the applicant(s), by these presents do sell, assign and transfer unto said assignee the full and exclusive right to the said invention in the United States and the entire rights, title and interest in and to any and all Patents which may be granted therefore in the United States. I/We hereby authorize and request the Director of the U.S. Patent and Trademark Office to issue said United States Patent to said assignee, of the entire right, title, and interest in and to the same, for his sole use and behoof; and for the use and behoof of his legal representatives, to the full end of the term for which said Patent may be granted, as fully and entirely as the same would have been held by me had this assignment and sale not been made.			
Executed this 18th day of August , 20 11			
at Bangalore, India.			
	B. Rouri chandure		
	Signature		
State of)	Ravichander Bairi		
SS: Prin	nted Name/Registration No., if applicable		
Before me personally appeared said Ravichander Bairi			
and acknowledged the foregoing instrument to be his free act and deed this			
day of, 20 <u>11</u> .			
Seal			
Note: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, See below*.			
✓ Total of			

This form offers a sample or suggested format for an assignment document. This sample form is not an OMB officially approved form.

PATENT REEL: 027081 FRAME: 0136