

PATENT ASSIGNMENT

Electronic Version v1.1

Stylesheet Version v1.1

SUBMISSION TYPE:

NEW ASSIGNMENT

NATURE OF CONVEYANCE:

ASSIGNMENT

CONVEYING PARTY DATA

| Name | Execution Date |
|-------------------|----------------|
| Thuji S. LIN | 11/01/1999 |
| Tian-Min LIU | 11/02/1999 |
| Stephen E. KRAFFT | 11/04/1999 |

RECEIVING PARTY DATA

| | |
|-----------------|------------------------|
| Name: | Broadcom Corporation |
| Street Address: | 5300 California Avenue |
| City: | Irvine |
| State/Country: | CALIFORNIA |
| Postal Code: | 92617 |

PROPERTY NUMBERS Total: 1

| Property Type | Number |
|---------------------|----------|
| Application Number: | 10687172 |

CORRESPONDENCE DATA

Fax Number: (202)371-2540

Correspondence will be sent via US Mail when the fax attempt is unsuccessful.

Phone: 202-371-2600

Email: rsokohl@skgf.com

Correspondent Name: Sterne, Kessler, Goldstein & Fox PLLC

Address Line 1: 1100 New York Avenue, N.W.

Address Line 4: Washington, DISTRICT OF COLUMBIA 20005

ATTORNEY DOCKET NUMBER:

2875.016000G

NAME OF SUBMITTER:

Robert Sokohl

Total Attachments: 6

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PATENT

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ASSIGNMENT

WHEREAS, WE, Thuji S. Lin, Tian-Min Liu, and Stephen E. Krafft, residing at 6 Blue Spruce, Irvine, California 92620; 12 Pacific Crest, Laguna Niguel, California 92677; and 1304 Maltman Avenue, Los Angeles, California 90026, respectively, have invented certain new and useful improvements disclosed in an application for United States Letters Patent entitled **PHASE DETECTORS IN CARRIER RECOVERY FOR OFFSET QAM AND VSB**, Application No. 09/433,732 filed November 3, 1999 (Docket No. 33880);

AND WHEREAS BROADCOM CORPORATION, a California corporation, having a place of business at 16215 Alton Parkway, Irvine, California 92618 (hereafter, together with any successors, legal representatives or assigns thereof, called "ASSIGNEE") wants to acquire the entire right, title and interest in and to said improvements and application.

NOW, THEREFORE, in consideration of the sum of One Dollar (\$1.00) to us in hand paid, and other good and valuable consideration, the receipt of which is hereby acknowledged, we have sold, assigned, transferred and set over, and do hereby sell, assign, transfer and set over to ASSIGNEE the entire right, title and interest in and to said improvements, and said application and all divisions and continuations thereof, and all United States Letters Patents which may be granted thereon and all reissues, reexaminations and extensions thereof, and all priority rights under all available International Agreements, Treaties and Conventions for the protection of intellectual property in its various forms in every participating country, and all applications for patents (including related rights such as utility-model registrations, inventor's certificates, and the like) heretofore or hereafter filed for said improvements in any foreign countries, and all patents (including all continuations, divisions, extensions, renewals, substitutes, and reissues thereof) granted for said improvements in any foreign countries; and we hereby authorize and request the United States Commissioner of Patents and Trademarks, and any officials of foreign countries whose duty it is to issue patents on applications as aforesaid, to issue all patents for said improvements to ASSIGNEE in accordance with the terms of this Assignment;

AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith;

AND WE HEREBY further covenant and agree that we will communicate to ASSIGNEE any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute and reissue applications, make all rightful oaths and generally do everything possible to aid ASSIGNEE to obtain and enforce proper patent protection for said improvements in all countries.

ASSIGNMENT
Docket No. 33880/JWE/B600

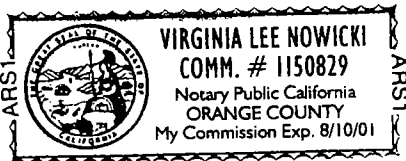
Joint

IN TESTIMONY WHEREOF, I hereunto set my hand this 1st day of November, 19 99

Thuji S. Lin
Thuji S. Lin

STATE OF California
COUNTY OF Orange)

On November 1, 1999, before me Virginia Lee Nowicki, Notary Public, personally appeared Thuji S. Lin personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.



WITNESS my hand and official seal.

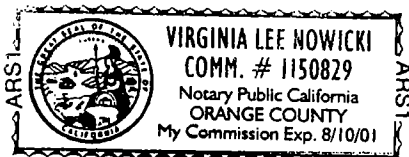
Virginia Lee Nowicki
Signature of Notary

IN TESTIMONY WHEREOF, I hereunto set my hand this 2 day of November, 19 99.

Tian-Min Liu
Tian-Min Liu

STATE OF California
COUNTY OF Orange)

On November 2, 1999, before me Virginia Lee Nowicki, Notary Public, personally appeared Tian-Min Liu personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.



WITNESS my hand and official seal.

Virginia Lee Nowicki
Signature of Notary

ASSIGNMENT
Docket No. 33880/JWE/B600

Joint

IN TESTIMONY WHEREOF, I hereunto set my hand this ____ day of _____, 19 ____.

STATE OF
COUNTY OF

)
)

Stephen E. Krafft

On _____, before me _____, Notary Public,
personally appeared **Stephen E. Krafft** personally known to me (or proved to me on the basis of
satisfactory evidence) to be the person whose name is subscribed to the within instrument and
acknowledged to me that he executed the same in his authorized capacity, and that by his signature on
the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary

JWE/mg
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Docket No. 33880/JWE/B600

Joint

ASSIGNMENT

WHEREAS, WE, Thuji S. Lin, Tian-Min Liu, and Stephen E. Krafft, residing at 6 Blue Spruce, Irvine, California 92620; 12 Pacific Crest, Laguna Niguel, California 92677; and 1304 Maltman Avenue, Los Angeles, California 90026, respectively, have invented certain new and useful improvements disclosed in an application for United States Letters Patent entitled **PHASE DETECTORS IN CARRIER RECOVERY FOR OFFSET QAM AND VSB**, Application No. 09/433,732 filed November 3, 1999 (Docket No. 33880);

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AND WE HEREBY covenant that we have full right to convey the entire interest herein assigned, and that we have not executed, and will not execute, any agreement in conflict herewith;

AND WE HEREBY further covenant and agree that we will communicate to ASSIGNEE any facts known to us respecting said improvements, and testify in any legal proceeding, sign all lawful papers, execute all divisional, continuation, substitute and reissue applications, make all rightful oaths and generally do everything possible to aid ASSIGNEE to obtain and enforce proper patent protection for said improvements in all countries.

ASSIGNMENT
Docket No. 33880/JWE/B600

Joint

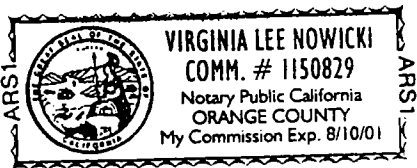
IN TESTIMONY WHEREOF, I hereunto set my hand this 1st day of November, 19 99

Thuji S. Lin
Thuji S. Lin

STATE OF California
COUNTY OF Orange)

On November 1, 1999, before me VIRGINIA LEE NOWICKI, Notary Public, personally appeared Thuji S. Lin personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Virginia Lee Nowicki
Signature of Notary

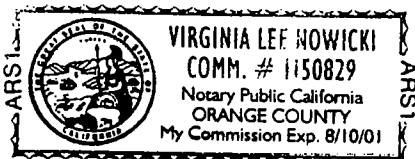
IN TESTIMONY WHEREOF, I hereunto set my hand this 2 day of November, 19 99.

Tian-Min Liu
Tian-Min Liu

STATE OF California
COUNTY OF Orange)

On November 2, 1999, before me VIRGINIA LEE NOWICKI, Notary Public, personally appeared Tian-Min Liu personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.



Virginia Lee Nowicki
Signature of Notary

ASSIGNMENT
Docket No. 33880/JWE/B600

Joint

IN TESTIMONY WHEREOF, I hereunto set my hand this 4th day of November, 19 99.

Stephen E. Krafft
Stephen E. Krafft

STATE OF)
COUNTY OF)

On _____, before me _____, Notary Public,
personally appeared **Stephen E. Krafft** personally known to me (or proved to me on the basis of
satisfactory evidence) to be the person whose name is subscribed to the within instrument and
acknowledged to me that he executed the same in his authorized capacity, and that by his signature on
the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

WITNESS my hand and official seal.

Signature of Notary

JWE/mg
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