

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT3597383

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT	
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT	
<b>CONVEYING PARTY DATA</b>		
	<b>Name</b>	<b>Execution Date</b>
	FERNANDO RAMIREZ-MIRELES	04/16/2002
	ROBERT AYRAPETIAN	04/16/2002
	DALE SMITH	04/16/2002
	MAX CHIEN	04/16/2002
	SAM HEIDARI	04/16/2002
<b>RECEIVING PARTY DATA</b>		
<b>Name:</b>	IKANOS COMMUNICATIONS, INC.	
<b>Street Address:</b>	47709 FREMONT BLVD.	
<b>City:</b>	FREMONT	
<b>State/Country:</b>	CALIFORNIA	
<b>Postal Code:</b>	94538	
<b>PROPERTY NUMBERS Total: 1</b>		
<b>Property Type</b>	<b>Number</b>	
<b>Patent Number:</b>	7076002	
<b>CORRESPONDENCE DATA</b>		
<b>Fax Number:</b>		
<i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i>		
<b>Email:</b>	btwalker@qualcomm.com	
<b>Correspondent Name:</b>	QUALCOMM INCORPORATED	
<b>Address Line 1:</b>	5775 MOREHOUSE DRIVE	
<b>Address Line 4:</b>	SAN DIEGO, CALIFORNIA 92121	
<b>NAME OF SUBMITTER:</b>	BRETT T. WALKER	
<b>SIGNATURE:</b>	/Brett T. Walker/	
<b>DATE SIGNED:</b>	11/02/2015	
<b>Total Attachments: 6</b>		
source=Ikanos Assignment 1#page2.tif		
source=Ikanos Assignment 1#page3.tif		
source=Ikanos Assignment 1#page4.tif		
source=Ikanos Assignment 1#page5.tif		

source=Ikanos Assignment 1#page6.tif

source=Ikanos Assignment 1#page7.tif

## ASSIGNMENT OF PATENT APPLICATION

Whereas I/we the undersigned inventor(s) have invented certain new and useful improvements as set forth in the patent application entitled:

### METHOD AND APPARATUS FOR SYMBOL BOUNDARY SYNCHRONIZATION

(Atty. Docket No.: **VELCP030**) for which I (we) have executed an application for a United States Letters Patent filed on April 5, 2002 and allocated USSN 10/117,823.

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I/We the undersigned inventor(s) hereby:

- 1) Sell(s), assign(s) and transfer(s) to **IKANOS COMMUNICATIONS, INC.**, a **California** corporation having a place of business at **47709 Fremont Boulevard, Fremont, CA 94538**, (hereinafter referred to as "ASSIGNEE"), the entire right title and interest in any and all improvements and inventions disclosed in, application(s) based upon, and Patent(s) (including foreign patents) granted upon the information which is disclosed in the above referenced application.
- 2) Authorize and request the Commissioner of Patents to issue any and all Letters Patents resulting from said application or any division(s), continuation(s), substitutes(s) or reissue(s) thereof to the ASSIGNEE.
- 3) Agree to execute all papers and documents and, entirely at the ASSIGNEE's expense, perform any acts which are reasonably necessary in connection with the prosecution of said application, as well as any derivative and applications thereof, foreign applications based thereon, and/or the enforcement of patents resulting from such applications.
- 4) Agree that the terms, covenants and conditions of this assignment shall inure to the benefit of the Assignee, its successors, assigns and other legal representative, and shall be binding upon the inventor(s), as well as the inventor's heirs, legal representatives and assigns.
- 5) Warrant and represent that I/we have not entered, and will not enter into any assignment, contract, or understanding that conflicts with this assignment.
- 6) Assignors hereby grant assignee or assignee's designee the right to insert the U.S. Patent Application number and filing date where space is provided above at any time subsequent to the date of the assignor's signature below.

Signed on the date(s) indicated beside my (our) signature(s).

1. Inventor Signature: \_\_\_\_\_

Fernando RAMIREZ-MIRELES

Date: \_\_\_\_\_

4-16-02

State of California )

County of \_\_\_\_\_ )

ss.

On this 16 day of April, in the year 2002, before me, Louis Beliso, Notary, personally appeared **Fernando RAMIREZ-MIRELES**, 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/she executed the same in his/her authorized capacity(ies), and that by his/her 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.

Notary Signature \_\_\_\_\_

(SEAL)

2. Inventor Signature: \_\_\_\_\_

Robert AYRAPETIAN

Date: \_\_\_\_\_

4-16-02

State of California )

County of \_\_\_\_\_ )

ss.

On this 16 day of April, in the year 2002, before me, Louis Beliso, Notary, personally appeared **Robert AYRAPETIAN**, 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/she executed the same in his/her authorized capacity(ies), and that by his/her 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.

Notary Signature \_\_\_\_\_

(SEAL)

3. Inventor Signature: \_\_\_\_\_

Dale SMITH

Date: \_\_\_\_\_

4/16/02

State of California )

County of \_\_\_\_\_ )

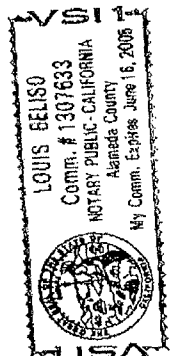
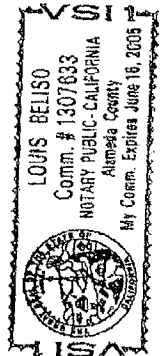
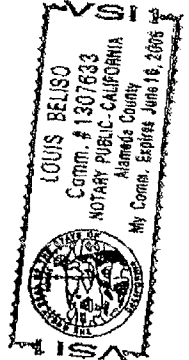
ss.

On this 16 day of April, in the year 2002, before me, Louis Beliso, Notary, personally appeared **Dale SMITH**, 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/she executed the same in his/her authorized capacity(ies), and that by his/her 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.

Notary Signature \_\_\_\_\_

(SEAL)



4. Inventor Signature:

Max CHIEN

Date:

4-16-02

State of California )

County of

Alameda

SS.

On this 16 day of April, in the year 2002, before me, Louis Beliso, Notary, personally appeared, Max CHIEN, 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/she executed the same in his/her authorized capacity(ies), and that by his/her 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.

Notary Signature

(SEAL)

5. Inventor Signature:

Sam HEIDARI

Date:

4/16/2002

State of California )

County of

Alameda

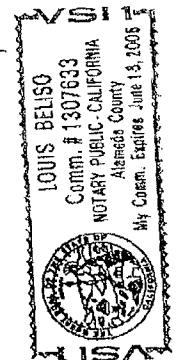
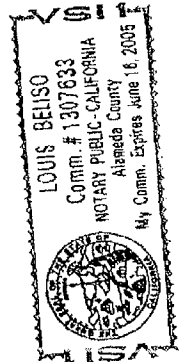
SS.

On this 16 day of April, in the year 2002, before me, Louis Beliso, Notary, personally appeared, Sam HEIDARI, 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/she executed the same in his/her authorized capacity(ies), and that by his/her 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.

Notary Signature

(SEAL)



**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of Alameda

} ss.

On April 19, 2002

Date

before me, Louis Beliso, Notary

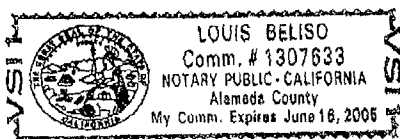
Name and Title of Officer (e.g., Jane Doe, Notary Public)

personally appeared Fernando Ramirez-Mirales and Dale Smith

Name(s) of Signer(s)

☐ personally known to me☒ 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/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Place Notary Seal Above

Signature of Notary Public

**OPTIONAL**

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer**

Signer's Name: \_\_\_\_\_

☒ Individual☐ Corporate Officer — Title(s): \_\_\_\_\_☐ Partner — ☐ Limited ☐ General☐ Attorney in Fact☐ Trustee☐ Guardian or Conservator☐ Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

**RIGHT THUMBPRINT  
OF SIGNER**

Top of thumb here

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of Alameda

} ss.

On April 16, 2002

Date

before me, Louis Beliso, Notary

Name and Title of Officer (e.g., Jane Doe, Notary Public)

personally appeared Robert Ayrapetian and Max Chen

Name(s) of Signer(s)

☐ personally known to me☒ 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/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Place Notary Seal Above

Louis Beliso  
Signature of Notary Public

**OPTIONAL**

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer**

Signer's Name: \_\_\_\_\_

☐ Individual☐ Corporate Officer — Title(s): \_\_\_\_\_☐ Partner — ☐ Limited ☐ General☐ Attorney in Fact☐ Trustee☐ Guardian or Conservator☐ Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

**RIGHT THUMBPRINT  
OF SIGNER**

Top of thumb here

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California

County of Alameda } ss.On April 16, 2002

Date

before me, Louis Beliso, Notary

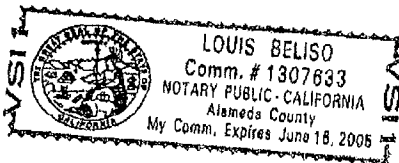
Name and Title of Officer (e.g., "John Doe, Notary Public")

personally appeared SAM HENDARI

Name(s) of Signer(s)

☐ personally known to me☒ 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/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Louis Beliso  
Signature of Notary Public

Place Notary Seal Above

**OPTIONAL**

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

**Description of Attached Document**

Title or Type of Document: \_\_\_\_\_

Document Date: \_\_\_\_\_

Number of Pages: \_\_\_\_\_

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer**

Signer's Name: \_\_\_\_\_

☐ Individual☐ Corporate Officer — Title(s): \_\_\_\_\_☐ Partner — ☐ Limited ☐ General☐ Attorney in Fact☐ Trustee☐ Guardian or Conservator☐ Other: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

**RIGHT THUMBPRINT  
OF SIGNER**

Top of thumb here