

Doc Code: MES.GIB

Document Description: Certification of Micro Entity Status (Gross Income Basis)

PTO/SB/15A (07-14)

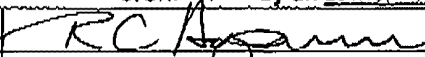
**CERTIFICATION OF MICRO ENTITY STATUS
(GROSS INCOME BASIS)**

Application Number or Control Number (if applicable): 13/068,028	Patent Number (if applicable): 8,361,286
First Named Inventor: Roberto Giorgini	Title of Invention: GALVANIC ANODE FOR REINFORCED CONCRETE APPLICATIONS

The applicant hereby certifies the following—

- (1) **SMALL ENTITY REQUIREMENT** – The applicant qualifies as a small entity as defined in 37 CFR 1.27.
- (2) **APPLICATION FILING LIMIT** – Neither the applicant nor the inventor nor a joint inventor has been named as the inventor or a joint inventor on more than four previously filed U.S. patent applications, excluding provisional applications and international applications under the Patent Cooperation Treaty (PCT) for which the basic national fee under 37 CFR 1.492(a) was not paid, and also excluding patent applications for which the applicant has assigned all ownership rights, or is obligated to assign all ownership rights, as a result of the applicant's previous employment.
- (3) **GROSS INCOME LIMIT ON APPLICANTS AND INVENTORS** – Neither the applicant nor the inventor nor a joint inventor, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986 (26 U.S.C. 61(a)), exceeding the "Maximum Qualifying Gross Income" reported on the USPTO Web site at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.
- (4) **GROSS INCOME LIMIT ON PARTIES WITH AN "OWNERSHIP INTEREST"** – Neither the applicant nor the inventor nor a joint inventor has assigned, granted, or conveyed, nor is under an obligation by contract or law to assign, grant, or convey, a license or other ownership interest in the application concerned to an entity that, in the calendar year preceding the calendar year in which the applicable fee is being paid, had a gross income, as defined in section 61(a) of the Internal Revenue Code of 1986, exceeding the "Maximum Qualifying Gross Income" reported on the USPTO Web site at http://www.uspto.gov/patents/law/micro_entity.jsp which is equal to three times the median household income for that preceding calendar year, as most recently reported by the Bureau of the Census.

SIGNATURE by an authorized party set forth in 37 CFR 1.33(b)

Signature					
Name	R.C. Harpman				
Date	July 2, 2020	Telephone	3307587505	Registration No.	29802
☐	There is more than one inventor and I am one of the inventors who are jointly identified as the applicant. The required additional certification form(s) signed by the other joint inventor(s) are included with this form.				



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	10/16/2012	8290109	CD05110C2	8034

60909 7590 09/26/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Gabriel Li, San Francisco, CA;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with a non-applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

60909 7590 08/20/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	03/01/2011	Gabriel Li	CD05110C2	8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	11/20/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CRAWFORD, JASON	2819	375-376000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____
2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Cypress Semiconductor Corporation

San Jose, CA

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☒ Issue Fee
☒ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number 503781 (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature

Date 9/17/12

Typed or printed name

Harry J. Johnson

Registration No. 56,861

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Electronic Patent Application Fee Transmittal				
Application Number:		13038028		
Filing Date:		01-Mar-2011		
Title of Invention:		CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Larry Joel Johnson/Lauren Navarro		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Utility Appl issue fee	1501	1	1740	1740
Publ. Fee- early, voluntary, or normal	1504	1	300	300

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2040

Electronic Acknowledgement Receipt	
EFS ID:	13769309
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Lauren Navarro
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	17-SEP-2012
Filing Date:	01-MAR-2011
Time Stamp:	19:35:10
Application Type:	Utility under 35 USC 111(a)

Payment information:	
Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$ 2040
RAM confirmation Number	6067
Deposit Account	503781
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	CD05110C2_TransmittalLetter_09172012.pdf	131879 6023cf82ac748e92e8acba070ff0981a12373a0d	no	2

Warnings:

Information:

2	Issue Fee Payment (PTO-85B)	CD05110C2_IssueFeePayment_09172012.pdf	382095 0887850d08439f717c3eb7705c08608c660ca2c0	no	1
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Warnings:

Information:

3	Fee Worksheet (SB06)	fee-info.pdf	31941 8d2555bf1ad6a70fedce75631eef54a35ba99562	no	2
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Warnings:

Information:

Total Files Size (in bytes):			545915
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Examiner: CRAWFORD, JASON
	)	
Gabriel Li	)	Group Art Unit: 2819
	)	
Application No.: 13/038,028	)	Confirmation No.: 8034
	)	
Filed: 03-01-2011	)	
	)	
For: CIRCUIT, SYSTEM AND METHOD	)	
FOR MULTIPLEXING SIGNALS	)	
WITH REDUCED JITTER	)	

ISSUE FEE TRANSMITTAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant is in receipt of a Notice of Allowance and Fee Due Form, mailed August 20, 2012 in connection with the above-identified application. The Issue Fee is due on or before November 20, 2012. Applicant hereby submits the Issue Fee and/or the Publication Fee.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.18, 1.19, 1.20 and 1.21 that may be required to issue the present application, and to credit any overpayments, to Deposit Account No. 50-3781.

Customer No.: 60909

Should the Patent Office have any questions regarding this submission or the application in general, the Patent Office is urged to contact the Applicant's attorney, Larry Johnson, by telephone at (408) 545-7194. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

Dated: 09/17/2012

By: /Larry J. Johnson/

Larry J. Johnson
Attorney for Applicant
Registration No. 56,861

Cypress Semiconductor Corporation
198 Champion Court
San Jose, CA 95134
Facsimile: (408) 545-6911
Customer No.: 60909

Customer No.: 60909



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

60909 7590 08/20/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 08/20/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/038,028

03/01/2011

Gabriel Li

CD05110C2

8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	11/20/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

60909 7590 08/20/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

13/038,028 03/01/2011 Gabriel Li CD05110C2 8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1740 \$300 \$0 \$2040 11/20/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
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CRAWFORD, JASON 2819 375-376000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	03/01/2011	Gabriel Li	CD05110C2	8034

60909	7590	08/20/2012
CYPRESS SEMICONDUCTOR CORPORATION		
198 CHAMPION COURT		
SAN JOSE, CA 95134-1709		

EXAMINER
CRAWFORD, JASON

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 08/20/2012

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
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5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No.	Applicant(s)	
	13/038,028	LI, GABRIEL	
	Examiner	Art Unit	
	Jason M. Crawford	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 8/1/2012.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-6 and 8-20.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☒ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>2/10/12,8/1/12</u> | 7. ☐ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☒ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other ____. |

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimers filed on 10/21/2011 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent Nos. 7,609,799 and 7,899,145 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

Claims 1-6 and 8-20 are allowed. The following is an examiner's statement of reasons for allowance:

In regards to claim 1, the prior art discloses of the claimed subject matter with the exception of wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 2-6 and 8-11 are also allowed as being dependent on claim 1.

In regards to claim 12, the prior art discloses of the claimed subject matter with the exception of wherein: a first of the three logic gates is operatively coupled with a first signal; a second of the three logic gates is operatively coupled with a second signal; and a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and a system component coupled to

Art Unit: 2819

the third logic gate, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 13-17 are also allowed as being dependent on claim 12.

In regards to claim 18, the prior art discloses of the claimed subject matter with the exception of wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 19 and 20 are also allowed as being dependent on claim 18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Crawford whose telephone number is (571)272-6004. The examiner can normally be reached on Mon-Fri 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2819

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,609,799	10-2009	Li, Gabriel	375/376
*	B	US-7,899,145	03-2011	Li, Gabriel	375/376
*	C	US-2004/0268278	12-2004	Hoberman et al.	716/005
*	D	US-5,991,135	11-1999	Saleh, Farid	361/56
*	E	US-7,030,661	04-2006	Doyle, James Thomas	327/102
*	F	US-2006/0165205	07-2006	Dally, William J.	375/371
*	G	US-2002/0089362	07-2002	Lutkemeyer, Christian A.J.	327/161
*	H	US-7,365,580	04-2008	Martin et al.	327/156
*	I	US-7,231,009	06-2007	Kim et al.	375/354
*	J	US-7,079,575	07-2006	Ho et al.	375/232
*	K	US-6,154,509	11-2000	Bishop, Wendell	375/371
*	L	US-6,292,016	09-2001	Jefferson et al.	326/39
*	M	US-6,927,604	08-2005	Boerstler et al.	326/93

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
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	R					
	S					
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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,042,263	05-2006	Johnson et al.	327/199
*	B	US-7,305,646	12-2007	McGrath et al.	326/38
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

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	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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	V	
	W	
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Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.



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CONFIRMATION NO. 8034

SERIAL NUMBER 13/038,028	FILING or 371(c) DATE 03/01/2011 RULE	CLASS 375	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. CD05110C2		
APPLICANTS Gabriel Li, San Francisco, CA; ** CONTINUING DATA ***** This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145 JC which is a CON of 11/468,195 08/29/2006 PAT 7,609,799 JC which claims benefit of 60/713,682 09/02/2005 JC ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/17/2011						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON CRAWFORD/</u> Examiner's Signature		☐ Met after Allowance JC Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS CYPRESS SEMICONDUCTOR CORPORATION 198 CHAMPION COURT SAN JOSE, CA 95134-1709 UNITED STATES						
TITLE CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S346	10	S316 and S332	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:11
S345	11	S344 not (S339 S340 S335)	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S344	13	S343 and "326"/\$.cls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S343	115	S342 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S342	148	S341 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S341	535	((power supply voltage) adj2 island) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S340	47	S339 not S335	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S339	68	S338 and "326"/\$.cls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S338	764	S337 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 11:08
S337	1074	S336 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S336	2658	((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR;	OR	ON	2012/08/03 11:08

JC

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
S335	22	S334 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S334	82	(326/63,68,80-81.ccls.) and ((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S333	18	S332 and (power adj2 domain)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S332	12473	S331 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S331	17753	326/21-22,29.ccls. 327/99,147,407- 408.ccls. 375/371,376.ccls. 713/400- 401,500-503,600-601.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 11:08
S330	11	S329 not (S324 S325 S320)	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S329	13	S328 and "326"/\$.ccls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S328	115	S327 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S327	148	S326 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 10:58
S326	535	((power supply voltage) adj2 island) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/08/03 10:58

			DERWENT; IBM_TDB			
S325	47	S324 not S320	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S324	68	S323 and "326"/\$.cls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S323	764	S322 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/08/03 10:58
S322	1074	S321 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 10:58
S321	2658	((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 10:58
S320	22	S319 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 10:58
S319	82	(326/63,68,80-81.cls.) and ((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/08/03 10:58
S318	21	S316 not S317	US-PGPUB; USPAT	OR	ON	2012/08/03 10:58
S317	9	("20020089362" "20060165205" "6154509" "6292016" "6927604" "7042263" "7079575" "7231009" "7365580").PN.	US-PGPUB; USPAT	OR	ON	2012/08/03 10:58
S316	21	("20040120087" "20060156205" "4572967" "4932027" "5045714" "5289048" "5352987" "5402013" "5574753" "5621774" "5731725" "5982220" "6105144" "6137336" "6208193" "6239646" "6385214" "6502212" "6775339" "7069458" "7480849").PN.	US-PGPUB; USPAT	OR	ON	2012/08/03 10:58

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S351	1	S350 and @ad<"20050902"	US-PGPUB; USPAT;	OR	ON	2012/08/03 11:09

			UPAD			
S350	8	S349 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; UPAD	OR	ON	2012/08/03 11:09
S349	109	S348 not S347	US-PGPUB; USPAT; UPAD	OR	ON	2012/08/03 11:09
S348	118	((((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/08/03 11:09
S347	9	((((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/08/03 11:09

8/ 3/ 2012 12:48:24 PM
H:\ EAST\ Workspaces\ 13038028.w sp

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/JC/	1	5045714	B1	1991-09-03	Park Hyungmoo et al.	Entire Document
	2	6239646	B1	2001-05-29	Navabi Mohammad et al.	Entire Document
	3	6208193	B1	2001-03-27	Moyal Nathan et al.	Entire Document
	4	6385214	B1	2002-05-07	Kikuchi Hidekazu et al.	Entire Document
	5	7069458	B1	2006-06-27	Sardi Mohamed et al.	Entire Document
	6	5574753	B1	1996-11-12	Vartti et al.	Entire Document
	7	7480849	B1	2009-01-20	Tomita, Yoshimi	Entire Document
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	Filing Date		2011-03-01			
	First Named Inventor		Gabriel Li			
	Art Unit		2819			
	Examiner Name		CRAWFORD, JASON			
	Attorney Docket Number		CD05110C2			

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/JC/	1	20040120087	A1	2004-06-24	Ishii Hirotomo	Entire Document

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/JC/	1	1187382	EP	A	2002-03-13	Agilent Technologies Inc.	Entire Document	☐
/JC/	2	1017193	EP	A	2000-07-05	Triquint Semiconductor Inc.	Entire Document	☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T5	
/JC/	1	Written Opinion of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 6 pages	☐	
/JC/	2	International Search Report of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 4 pages	☐	
/JC/	3	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 06/15/2009; 7 pages	☐	

Receipt date: 02/10/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

/JC/	4	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 11/26/2008; 7 pages	☐
	5	USPTO Non-Final Rejection for Application Number 11/468,195 (CD05110) dated 06/09/2008; 6 pages	☐
	6	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 10/20/2010; 8 pages	☐
	7	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 07/22/2010; 8 pages	☐
	8	USPTO Non-Final Rejection for Application Number 12/577,477 (CD05110C1) dated 03/10/2010; 10 pages	☐

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EXAMINER SIGNATURE

Examiner Signature	/Jason Crawford/ (08/03/2012)	Date Considered	
--------------------	-------------------------------	-----------------	--

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Receipt date: 02/10/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).
- OR
- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).
- ☐ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Larry Johnson/	Date (YYYY-MM-DD)	2012-02-10
Name/Print	Larry Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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Search Notes 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
327	99,147,407-408	8/3/2012	JC
375	371,376	8/3/2012	JC
713	400-401,500-503,600-601	8/3/2012	JC
326	21-22,29	8/3/2012	JC

SEARCH NOTES		
Search Notes	Date	Examiner
See attached search	8/3/2012	JC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
All	see text search	8/3/2012	JC

	/JASON M CRAWFORD/ Primary Examiner.Art Unit 2819
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Ming-Yu Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
JC/	1	4572967	B1	1986-02-25	Metz	Entire Document
	2	4932027	B1	1990-06-05	Scharrer	Entire Document
	3	5045714	A	1991-09-03	Park et al.	Entire Document
	4	5289048	B1	1994-02-22	Ishhara et al.	Entire Document
	5	5352987	B1	1994-10-04	Harvey	Entire Document
	6	5402013	B1	1995-03-28	Friedrich	Entire Document
	7	5574753	A	1996-11-12	Varti et al.	Entire Document
	8	5621774	B1	1997-04-15	Ishibashi et al.	Entire Document

Receipt date: 08/01/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
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	First Named Inventor	Gabriel Ming-Yu Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

/JC/	9	5731725	A	1998-03-24	Rothenberger et al.	Entire Document
	10	5982220	A	1999-11-09	Kim Yong	Entire Document
	11	6105144	B1	2000-08-15	Wu, Leon Li-Heng	Entire Document
	12	6137336	B1	2000-10-24	Baba et al.	Entire Document
	13	6208193	B1	2001-03-27	Moyal et al.	Entire Document
	14	6239646	B1	2001-05-29	Navabi et al.	Entire Document
	15	6385214	B1	2002-05-07	Kikuchi et al.	Entire Document
	16	6502212	B1	2002-12-31	Coyle et al.	Entire Document
	17	6775339	B1	2004-08-10	Wildes et al.	Entire Document
	18	7069458	B1	2006-06-27	Sardi et al.	Entire Document
	19	7480849	B1	2009-01-20	Tomita, Yoshimi	Entire Document

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	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number		CD05110C2	

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	
/JC/	1	20040120087	A	2004-06-24	Ishii	Entire Document	
/JC/	2	20060156205	A	2006-07-13	Tomita	Entire Document	

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ²	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

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NON-PATENT LITERATURE DOCUMENTS					Remove	
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.				T ⁵
/JC/	1	International Search Report for International Application Number PCT/US2006/033947 (CD05110WO) mailed 1/15/2007				☐
/JC/	2	USPTO Final Rejection for Application Number 09/182,556 (CD98090) dated 05/23/2000; 8 pages				☐
/JC/	3	USPTO Final Rejection for Application Number 09/232,344 (CD98096) dated 09/05/2000; 8 pages				☐

Receipt date: 08/01/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Ming-Yu Li		
	Art Unit		2819	
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number		CD05110C2	

/JC/	4	USPTO Non-Final Rejection for Application Number 09/182,556 (CD98090) dated 01/06/2000; 7 pages	☐
	5	USPTO Non-Final Rejection for Application Number 09/182,556 (CD98090) dated 09/08/2000; 7 pages	☐
	6	USPTO Non-Final Rejection for Application Number 09/232,344 (CD98096) dated 03/29/2000; 8 pages	☐
	7	USPTO Non-Final Rejection for Application Number 10/222,129 (CD02069) dated 05/23/2005; 9 pages	☐
	8	USPTO Non-Final Rejection for Application Number 10/222,129 (CD02069) dated 11/01/2005; 9 pages	☐
	9	USPTO Non-Final Rejection for Application Number 11/468,195 (CD05110) dated 06/09/2008; 6 pages	☐
	10	USPTO Non-Final Rejection for Application Number 12/577,477 (CD05110C1) dated 03/10/2010; 10 pages	☐
	11	USPTO Notice of Allowance for Application Number 09/182,556 (CD98090) dated 01/26/2001; 3 pages	☐
	12	USPTO Notice of Allowance for Application Number 09/232,344 (CD98096) dated 11/13/2000; 2 pages	☐
	13	USPTO Notice of Allowance for Application Number 10/222,129 (CD02069) dated 02/08/2006; 4 pages	☐
	14	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 06/15/2009; 7 pages	☐

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/JC/	15	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 11/26/2008; 7 pages	☐
↓	16	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 07/22/2010; 8 pages	☐
	17	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 10/20/2010; 8 pages	☐
	18	Written Opinion of the International Searching Authority dated 01/15/2007 for International Application Number PCT/US06/033947 (CD05110WO); 6 pages	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature	/Jason Crawford/ (08/03/2012)	Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Receipt date: 08/01/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Ming-Yu Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).
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- ☐ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Larry J. Johnson/	Date (YYYY-MM-DD)	2012-07-31
Name/Print	Larry J. Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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<i>Index of Claims</i> 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner JASON M CRAWFORD	Art Unit 2819

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☒ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	04/27/2011	10/06/2011	12/07/2011	02/14/2012	08/03/2012										
1	1	✓	=	=	=	=										
2	2	✓	=	=	=	=										
3	3	✓	=	=	=	=										
4	4	✓	=	=	=	=										
5	5	✓	=	=	=	=										
6	6	✓	=	=	=	=										
-	7	✓	-	-	-	-										
8	8	✓	=	=	=	=										
9	9	✓	=	=	=	=										
7	10	✓	=	=	=	=										
10	11	✓	=	=	=	=										
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13	14	✓	✓	=	=	=										
14	15	✓	✓	=	=	=										
15	16	✓	✓	=	=	=										
16	17	✓	✓	=	=	=										
17	18	✓	✓	=	=	=										
18	19	✓	✓	=	=	=										
19	20	✓	✓	=	=	=										

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	13/038,028	Filing Date	2011-03-01	Docket Number (if applicable)	CD05110C2	Art Unit	2819
First Named Inventor	Gabriel Ming-Yu Li			Examiner Name	CRAWFORD, JASON		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

SUBMISSION REQUIRED UNDER 37 CFR 1.114

Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

☐ Previously submitted. If a final Office action is outstanding, any amendments filed after the final Office action may be considered as a submission even if this box is not checked.

☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☐ Amendment/Reply

☒ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

☒ The Director is hereby authorized to charge any underpayment of fees, or credit any overpayments, to
Deposit Account No 503781

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

Signature of Registered U.S. Patent Practitioner			
Signature	/Larry J. Johnson/	Date (YYYY-MM-DD)	2012-07-31
Name	Larry J. Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	Examiner: CRAWFORD, JASON
Gabriel Ming-Yu Li	)	
	)	Group Art Unit: 2819
Application No.: 13/038,028	)	
	)	Confirmation No.: 8034
Filed: March 1, 2011	)	
	)	
For: CIRCUIT, SYSTEM, AND METHOD	)	
FOR MULTIPLEXING SIGNALS	)	
WITH REDUCED JITTER	)	

**REQUEST FOR CONTINUED EXAMINATION
AND INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby submits the Request for Continued Examination to be considered with the IDS for the above referenced application. In compliance with the duty of disclosure under 37 CFR § 1.56 and in accordance with the practice under 37 CFR §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed PTO-1449.

In accordance with 37 CFR § 1.97(h), this Information Disclosure Statement is not to be construed as an admission that the information cited is or is considered to be material to patentability as defined in 37 CFR § 1.56(b), nor as an admission that the information constitutes prior art within the meaning of 35 USC §§ 102 and/or 103.

It is respectfully requested that the information listed on the PTO-1449 be considered by the Examiner, and that an initialed copy of the PTO-1449 be returned indicating that such information was considered.

Customer No.: 60909

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present application, and to credit any overpayments, to Deposit Account No. 50-3781.

Should the Patent Office have any questions regarding this submission or the application in general, the Patent Office is urged to contact the Applicant's attorney, Larry Johnson, by telephone at (408) 545-7194. All correspondence should continue to be directed to the address given below.

/

/

Respectfully submitted,

Date: 07/31/2012

By: /Larry J. Johnson/

Larry J. Johnson
Attorney for Applicant
Registration No. 56,861

Cypress Semiconductor Corporation
198 Champion Court
San Jose, CA 95134
Facsimile: (408) 545-6911
Customer No.: 60909

Customer No.: 60909

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028
	Filing Date		2011-03-01
	First Named Inventor	Gabriel Ming-Yu Li	
	Art Unit	2819	
	Examiner Name	CRAWFORD, JASON	
	Attorney Docket Number	CD05110C2	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	4572967	B1	1986-02-25	Metz	Entire Document
	2	4932027	B1	1990-06-05	Scharrer	Entire Document
	3	5045714	A	1991-09-03	Park et al.	Entire Document
	4	5289048	B1	1994-02-22	Ishhara et al.	Entire Document
	5	5352987	B1	1994-10-04	Harvey	Entire Document
	6	5402013	B1	1995-03-28	Friedrich	Entire Document
	7	5574753	A	1996-11-12	Vartti et al.	Entire Document
	8	5621774	B1	1997-04-15	Ishibashi et al.	Entire Document

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
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First Named Inventor	Gabriel Ming-Yu Li	
Art Unit	2819	
Examiner Name	CRAWFORD, JASON	
Attorney Docket Number	CD05110C2	

9	5731725	A	1998-03-24	Rothenberger et al.	Entire Document
10	5982220	A	1999-11-09	Kim Yong	Entire Document
11	6105144	B1	2000-08-15	Wu, Leon Li-Heng	Entire Document
12	6137336	B1	2000-10-24	Baba et al.	Entire Document
13	6208193	B1	2001-03-27	Moyal et al.	Entire Document
14	6239646	B1	2001-05-29	Navabi et al.	Entire Document
15	6385214	B1	2002-05-07	Kikuchi et al.	Entire Document
16	6502212	B1	2002-12-31	Coyle et al.	Entire Document
17	6775339	B1	2004-08-10	Wildes et al.	Entire Document
18	7069458	B1	2006-06-27	Sardi et al.	Entire Document
19	7480849	B1	2009-01-20	Tomita, Yoshimi	Entire Document

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028
	Filing Date		2011-03-01
	First Named Inventor	Gabriel Ming-Yu Li	
	Art Unit	2819	
	Examiner Name	CRAWFORD, JASON	
	Attorney Docket Number	CD05110C2	

If you wish to add additional U.S. Patent citation information please click the Add button. [Add](#)

U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20040120087	A	2004-06-24	Ishii	Entire Document
	2	20060156205	A	2006-07-13	Tomita	Entire Document

If you wish to add additional U.S. Published Application citation information please click the Add button. [Add](#)

FOREIGN PATENT DOCUMENTS								Remove
Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² i	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							☐

If you wish to add additional Foreign Patent Document citation information please click the Add button. [Add](#)

NON-PATENT LITERATURE DOCUMENTS				Remove
Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.		T ⁵
	1	International Search Report for International Application Number PCT/US2006/033947 (CD05110WO) mailed 1/15/2007		☐
	2	USPTO Final Rejection for Application Number 09/182,556 (CD98090) dated 05/23/2000; 8 pages		☐
	3	USPTO Final Rejection for Application Number 09/232,344 (CD98096) dated 09/05/2000; 8 pages		☐

**INFORMATION DISCLOSURE
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First Named Inventor	Gabriel Ming-Yu Li
Art Unit	2819
Examiner Name	CRAWFORD, JASON
Attorney Docket Number	CD05110C2

4	USPTO Non-Final Rejection for Application Number 09/182,556 (CD98090) dated 01/06/2000; 7 pages	☐
5	USPTO Non-Final Rejection for Application Number 09/182,556 (CD98090) dated 09/08/2000; 7 pages	☐
6	USPTO Non-Final Rejection for Application Number 09/232,344 (CD98096) dated 03/29/2000; 8 pages	☐
7	USPTO Non-Final Rejection for Application Number 10/222,129 (CD02069) dated 05/23/2005; 9 pages	☐
8	USPTO Non-Final Rejection for Application Number 10/222,129 (CD02069) dated 11/01/2005; 9 pages	☐
9	USPTO Non-Final Rejection for Application Number 11/468,195 (CD05110) dated 06/09/2008; 6 pages	☐
10	USPTO Non-Final Rejection for Application Number 12/577,477 (CD05110C1) dated 03/10/2010; 10 pages	☐
11	USPTO Notice of Allowance for Application Number 09/182,556 (CD98090) dated 01/26/2001; 3 pages	☐
12	USPTO Notice of Allowance for Application Number 09/232,344 (CD98096) dated 11/13/2000; 2 pages	☐
13	USPTO Notice of Allowance for Application Number 10/222,129 (CD02069) dated 02/08/2006; 4 pages	☐
14	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 06/15/2009; 7 pages	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028
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	Attorney Docket Number	CD05110C2	

15	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 11/26/2008; 7 pages	☐
16	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 07/22/2010; 8 pages	☐
17	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 10/20/2010; 8 pages	☐
18	Written Opinion of the International Searching Authority dated 01/15/2007 for International Application Number PCT/US06/033947 (CD05110WO); 6 pages	☐

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13038028
Filing Date	2011-03-01
First Named Inventor	Gabriel Ming-Yu Li
Art Unit	2819
Examiner Name	CRAWFORD, JASON
Attorney Docket Number	CD05110C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Larry J. Johnson/	Date (YYYY-MM-DD)	2012-07-31
Name/Print	Larry J. Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

DAFFER MCDANIEL LLP
Attn. Daffer, Kevin L.
P.O. Box 684908
Austin TX 78768-4908
ETATS-UNIS D'AMERIQUE

DOCKETED

BY: 

DATE: 1-30-07

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing
(day/month/year)

15/01/2007

Applicant's or agent's file reference

5298-24902

FOR FURTHER ACTION

See paragraphs 1 and 4 below

International application No.

PCT/US2006/033947

International filing date

(day/month/year)

29/08/2006

Applicant

CYPRESS SEMICONDUCTOR CORP.

1. ☒ The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the International Search Report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority



European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Hannelore Filip

MOSAID Technologies Inc., Exhibit 2024

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the International Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*, Volume I/A, Annexes B1 and B2).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the International Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, Volume I/A, paragraph 296).

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the international Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 5298-24902	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2006/033947	International filing date (day/month/year) 29/08/2006	(Earliest) Priority Date (day/month/year) 02/09/2005
Applicant CYPRESS SEMICONDUCTOR CORP.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☐ the text is approved as submitted by the applicant
☒ the text has been established by this Authority to read as follows:

CIRCUIT, SYSTEM AND MULTIPLEXING SIGNALS WITH REDUCED JITTER

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

- ☒ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention

b. ☐ none of the figures is to be published with the abstract

A. CLASSIFICATION OF SUBJECT MATTER

INV. H04J3/04 H03M9/00 H03K19/173 H03K17/62

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04J H03K H03M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 187 382 A (AGILENT TECHNOLOGIES INC [US]) 13 March 2002 (2002-03-13) paragraphs [0008] - [0013] claims 2,9	1-20
X	US 5 045 714 A (PARK HYUNGMOO [KR] ET AL) 3 September 1991 (1991-09-03) claims 1-3,10,11	17,19,20
Y	US 2004/120087 A1 (ISHII HIROTOMO [JP]) 24 June 2004 (2004-06-24) paragraph [0005]	1-16,18
Y	US 2004/120087 A1 (ISHII HIROTOMO [JP]) 24 June 2004 (2004-06-24) paragraph [0005]	1-16,18
X	EP 1 017 193 A (TRIQUINT SEMICONDUCTOR INC [US]) 5 July 2000 (2000-07-05) claims 1-3	1-20
	-/--	

☒ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *G* document member of the same patent family

Date of the actual completion of the international search

3 January 2007

Date of mailing of the international search report

15/01/2007

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Belloni, Paolo

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 239 646 B1 (NAVABI MOHAMMAD J [US] ET AL) 29 May 2001 (2001-05-29) column 3, line 1 - line 60 claim 1 -----	1-20
A	US 6 208 193 B1 (MOYAL NATHAN Y [US] ET AL) 27 March 2001 (2001-03-27) the whole document -----	1-20
A	US 6 385 214 B1 (KIKUCHI HIDEKAZU [JP] ET AL) 7 May 2002 (2002-05-07) the whole document -----	1-20
P,A	US 7 069 458 B1 (SARDI MOHAMED [US] ET AL) 27 June 2006 (2006-06-27) figures 5a,5b -----	1-20

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1187382	A	13-03-2002	JP 2002152022 A	24-05-2002
			KR 20020019403 A	12-03-2002
			US 6760349 B1	06-07-2004
US 5045714	A	03-09-1991	JP 1856954 C	07-07-1994
			JP 2076411 A	15-03-1990
			JP 5072133 B	08-10-1993
US 2004120087	A1	24-06-2004	JP 2004119883 A	15-04-2004
EP 1017193	A	05-07-2000	JP 2000236244 A	29-08-2000
			US 6310509 B1	30-10-2001
US 6239646	B1	29-05-2001	NONE	
US 6208193	B1	27-03-2001	NONE	
US 6385214	B1	07-05-2002	JP 11205268 A	30-07-1999
US 7069458	B1	27-06-2006	NONE	

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2006/033947

International filing date (day/month/year)
29.08.2006

Priority date (day/month/year)
02.09.2005

International Patent Classification (IPC) or both national classification and IPC
INV. H04J3/04 H03M9/00 H03K19/173 H03K17/62

Applicant
CYPRESS SEMICONDUCTOR CORP.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Belloni, Paolo

Telephone No. +49 89 2399-8025



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/033947

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/033947

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16,18-20
	No: Claims	17
Inventive step (IS)	Yes: Claims	
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

The following documents are referred to in this opinion; the numbering will be adhered to in the rest of the procedure:

D1: US 5 045 714

D2: US 2004/0120087

D3: EP 1 187 382

1. Lack of novelty (Article 33(2) PCT) for claim 17

- 1.1 The solution proposed in independent claim 17 of the present application cannot be considered as being novel with respect to the disclosure of D1 (Art. 33(2) PCT). D1, in fact, discloses (the references in parentheses applying to D1) a method for multiplexing signals comprising:
- supplying a first signal to a first logic gate and a second signal to a second logic gate (*A **multiplexer** for receiving m data input signals and providing an output signal, where $m > 1$, the output signal being selected from the m data input signals, said multiplexer comprising: a data input stage including **m data input gate circuits, each data input gate circuit receiving a uniquely associated data input signal and having an output**, see claim 1);*
- deactivating one of the first or second signals by supplying a control signal to the first and second logic gates (*a **channel select control stage** including a plurality of channel select buffer circuits, each channel select buffer circuit receiving a uniquely associated channel select control signal and having an output; ... **means connecting the outputs of said channel select control stage ... to inputs of said data input gate circuits**, said data input gate circuits being responsive to each possible unique combination of received channel select control signals for **causing a selected one of said data input gate circuits, being selected in response to said uniquely associated data input signals, to pass a received data input signal to the output of the selected one of said data input gate circuits while inhibiting passage of received data input signals by the remaining data input gate circuits**, see claim 1); and*
- forwarding an active one of the first or second signals to a third logic gate (***output means**, including an output terminal, for applying the output from the selected one of said data input gate circuit to said output terminal as the multiplexer output signal*, see claim 1).

It is here noted that the expressions addressing the fact that the multiplexed signals have reduced jitter cannot be considered as features limiting the method and do not add any substantial step to it, on the contrary they rather attempt to define the subject-matter in terms of a result to be achieved and doing so the matter for which protection is sought is not defined.

It is pointed out that even if the applicant would interpret such non-features as to enable him to allege that the subject matter of claim 17 is new, said claim would not be considered as involving an inventive step (Article 33(3) PCT) because D1 aims at improving the noise margin of the gate (see description), which is directly linked to the jitter problematic.

2. Lack of inventive step (Article 33(3) PCT) for claims 1-16 and 18-20

- 2.1 The subject-matter of independent claim 1 does not seem to involve an inventive step. In fact, claim 1 claims the same corresponding features as in method claim 17 with the additional feature of having a different power supply domain for each of the three logic gates and the logic block. Starting from the disclosure of D1, which anticipates the subject-matter of claim 17 as discussed at paragraph 1, the problem solved by the distinguishing feature mentioned above would be how to prevent performance degradation due to interference and noise between circuit blocks mounted on the same chip. However, in seeking a solution to that problem, the skilled person would become aware of document D2, because D2 deals with integrated semiconductor devices and it addresses the same problem just mentioned above (see par. 0005 of D2). Since D2 discloses that "*To do so, mutually independent power supply terminals are sometimes provided for circuit blocks whose functions differ from each other even though the same power supply voltage is applied to the circuit blocks*" (see par. 0005), it would be obvious to the person skilled in the art to incorporate the feature disclosed in D2 (a different power domain for each logic circuit) onto the circuit known from D1 (the multiplexer described above at par. 1), so that performance degradation due to interference and noise between circuit blocks mounted on the same chip is prevented. Doing so, the skilled person would arrive at the circuit of claim 1 without involving any inventive step.
- 2.2 The same reasoning applies also for claim 10 and claim 18 (it is considered that the further system component in claim 10 coupled to the output of the circuit as in

claim 1 and the spatial separation of the gates of claim 18 do not add anything of inventive significance because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice).

- 2.3 Furthermore, it is noted that the subject-matter of claims 1, 10 and 18 is not inventive with respect to the disclosure of D3 either. In fact, D3 discloses that "*The **multiplexer, or MUX, of the present invention is comprised of a plurality of discrete, independently powered, channel sections. Each channel section, in turn, includes a plurality of individual channels ... The components of each channel are powered by switchable bias current sources which are selectively actuated by a decoder. Only the current sources for the channel selected to route the signal are activated at any given moment ... The differential outputs of the channels within each channel section are connected in parallel, and fed to a pair of common-base amplifiers ... This effectively reduces signal jitter for the data passing through the multiplexer ... The outputs of the emitter follower amplifiers then constitute the outputs of the multiplexer ... Arranging the channels into groups or sections reduces the parasitic capacitance which would otherwise result from a single, large scale parallel connection arrangement of the channel outputs***" (see par. 0008-0013) and also "***means for selecting a particular said channel within said plurality of channel sections, and routing an electrical signal delivered to its channel input to its channel output***" (see claim 2). The only difference in the application being that also the decoder (or logic block) and the pair of output common-base amplifiers (or third logic gate) are arranged within own power supply domains, this difference does not add anything of inventive significance with respect to the disclosure of D3 because it is considered a minor design detail and is either directly derivable from the above mentioned prior art (see in particular D2) or represents standard practice.
- 2.4 Finally, the features defined in dependent claims 2-9, 11-16 and 19-20 do not add anything of inventive significance to the claim to which they refer because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice.
In particular, the features of claims 2, 3, 11 and 12 are to be found in D1 in claims 2, 3, 10 and 11.

PCT

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see form PCT/ISA/220

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INTERNATIONAL SEARCHING AUTHORITY
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Date of mailing
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FOR FURTHER ACTION
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For further options, see Form PCT/ISA/220.

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Fax: +49 89 2399 - 4465

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Belloni, Paolo

Telephone No. +49 89 2399-8025



MOSAID Technologies Inc., Exhibit 2024

Box No. I Basis of the opinion

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

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	No: Claims	17
Inventive step (IS)	Yes: Claims	
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see separate sheet

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- deactivating one of the first or second signals by supplying a control signal to the first and second logic gates (*a **channel select control stage** including a plurality of channel select buffer circuits, each channel select buffer circuit receiving a uniquely associated channel select control signal and having an output; ... **means connecting the outputs of said channel select control stage ... to inputs of said data input gate circuits**, said data input gate circuits being responsive to each possible unique combination of received channel select control signals for **causing a selected one of said data input gate circuits, being selected in response to said uniquely associated data input signals, to pass a received data input signal to the output of the selected one of said data input gate circuits while inhibiting passage of received data input signals by the remaining data input gate circuits**, see claim 1)*; and
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- 2.2 The same reasoning applies also for claim 10 and claim 18 (it is considered that the further system component in claim 10 coupled to the output of the circuit as in

claim 1 and the spatial separation of the gates of claim 18 do not add anything of inventive significance because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice).

- 2.3 Furthermore, it is noted that the subject-matter of claims 1, 10 and 18 is not inventive with respect to the disclosure of D3 either. In fact, D3 discloses that "*The **multiplexer**, or MUX, of the present invention is comprised of a plurality of **discrete, independently powered, channel sections**. Each channel section, in turn, includes a plurality of individual channels ... The components of each channel are powered by switchable bias current sources which are selectively actuated by a **decoder**. **Only the current sources for the channel selected to route the signal are activated at any given moment** ... The differential outputs of the channels within each channel section are connected in parallel, and **fed to a pair of common-base amplifiers** ... This effectively reduces signal jitter for the data passing through the multiplexer ... The outputs of the emitter follower amplifiers then constitute the outputs of the multiplexer ... Arranging the channels into groups or sections reduces the parasitic capacitance which would otherwise result from a single, large scale parallel connection arrangement of the channel outputs*" (see par. 0008-0013) and also "***means for selecting a particular said channel** within said plurality of channel sections, and routing an electrical signal delivered to its channel input to its channel output*" (see claim 2). The only difference in the application being that also the decoder (or logic block) and the pair of output common-base amplifiers (or third logic gate) are arranged within own power supply domains, this difference does not add anything of inventive significance with respect to the disclosure of D3 because it is considered a minor design detail and is either directly derivable from the above mentioned prior art (see in particular D2) or represents standard practice.
- 2.4 Finally, the features defined in dependent claims 2-9, 11-16 and 19-20 do not add anything of inventive significance to the claim to which they refer because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice.
In particular, the features of claims 2, 3, 11 and 12 are to be found in D1 in claims 2, 3, 10 and 11.

Electronic Patent Application Fee Transmittal				
Application Number:		13038028		
Filing Date:		01-Mar-2011		
Title of Invention:		CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Larry Joel Johnson/Penny Jackson		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	930	930
Total in USD (\$)				930

Electronic Acknowledgement Receipt	
EFS ID:	13395315
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Penny Jackson
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	01-AUG-2012
Filing Date:	01-MAR-2011
Time Stamp:	16:01:47
Application Type:	Utility under 35 USC 111(a)

Payment information:	
Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$930
RAM confirmation Number	2891
Deposit Account	503781
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	CD05110C2_RCE_07312012.pdf	700093	no	3
			a9938419b179422feb001cff28c1644e1b00387		
Warnings:					
Information:					
2	Transmittal Letter	CD05110C2_TransmittalLetter_07312012.pdf	19150	no	2
			d6425f51fcc6c87d93967301e3cf00ff6006f3f		
Warnings:					
Information:					
3	Information Disclosure Statement (IDS) Form (SB08)	CD05110C2_IDSForm_07312012.pdf	613320	no	7
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Warnings:					
Information:					
4	Non Patent Literature	CD05110WO_InternationSearchReport_01152007.pdf	283373	no	6
			098b85e03c854e2d99f7de7a62b8bd0328a5ba90		
Warnings:					
Information:					
5	Non Patent Literature	CD98090_FinalRejectionOA_05232000.pdf	1442677	no	8
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Warnings:					
Information:					
6	Non Patent Literature	CD98096_FinalRejectionOA_09052000.pdf	274713	no	8
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Information:					
7	Non Patent Literature	CD98090_NonFinalOA_01062000.pdf	1160309	no	7
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8	Non Patent Literature	CD98090_NonFinalOA_09082000.pdf	1233815	no	7
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Warnings:					
Information:					
9	Non Patent Literature	CD98096_NonFinalOA_03292000.pdf	276910	no	8
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10	Non Patent Literature	CD05110_NonFinalOA_06092008.pdf	218388	no	6
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12	Non Patent Literature	CD98096_NOA_11132000.pdf	102528	no	2
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Warnings:					
Information:					
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Warnings:					
Information:					
14	Non Patent Literature	CD05110_WrittenOpinion_11262008.pdf	250319	no	6
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Warnings:					
Information:					
15	Non Patent Literature	CD05110WO_WrittenOpinion_01152007.pdf	266112	no	6
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Warnings:					
Information:					
16	Non Patent Literature	CD02069_Non_Final_Rejection_05232005.pdf	344125	no	9
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Warnings:					
Information:					
17	Non Patent Literature	CD02069_Non_Final_Rejection_11012005.pdf	321605	no	9
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MOSAD Technologies Inc., Exhibit 2024 Page 2024-74

Warnings:					
Information:					
18	Non Patent Literature	CD02069_NOA_02082006.pdf	244406	no	4
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Warnings:					
Information:					
19	Non Patent Literature	CD05110C1_Non_Final_Rejection_03102010.pdf	362378	no	10
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Warnings:					
Information:					
20	Non Patent Literature	CD05110C1_NOA_07222010.pdf	367938	no	8
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Warnings:					
Information:					
21	Non Patent Literature	CD05110C1_NOA_10202010.pdf	367452	no	8
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Warnings:					
Information:					
22	Non Patent Literature	CD05110_NOA_11262008.pdf	359153	no	7
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Warnings:					
Information:					
23	Fee Worksheet (SB06)	fee-info.pdf	30599	no	2
			d420b5f3612e563231cdf73733f70e0610e647f0		
Warnings:					
Information:					
Total Files Size (in bytes):			10139082		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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NOTICE OF ALLOWANCE AND FEE(S) DUE

60909 7590 05/01/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 05/01/2012

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/038,028

03/01/2011

Gabriel Li

CD05110C2

8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	08/01/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	03/01/2011	Gabriel Li	CD05110C2	8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	08/01/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CRAWFORD, JASON	2819	375-376000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	03/01/2011	Gabriel Li	CD05110C2	8034

60909 7590 05/01/2012
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT PAPER NUMBER

2819

DATE MAILED: 05/01/2012

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No.	Applicant(s)	
	13/038,028	LI, GABRIEL	
	Examiner	Art Unit	
	Jason M. Crawford	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/10/2012.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-6,8-20.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. ☒ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>2/10/12</u> | 7. ☐ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☒ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other ____. |

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimers filed on 10/21/2011 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent Nos. 7,609,799 and 7,899,145 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

Claims 1-6 and 8-20 are allowed. The following is an examiner's statement of reasons for allowance:

In regards to claim 1, the prior art discloses of the claimed subject matter with the exception of wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 2-6 and 8-11 are also allowed as being dependent on claim 1.

In regards to claim 12, the prior art discloses of the claimed subject matter with the exception of wherein: a first of the three logic gates is operatively coupled with a first signal; a second of the three logic gates is operatively coupled with a second signal; and a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and a system component coupled to

Art Unit: 2819

the third logic gate, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 13-17 are also allowed as being dependent on claim 12.

In regards to claim 18, the prior art discloses of the claimed subject matter with the exception of wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain, nor would it have been obvious to one of ordinary skill in the art to do so.

Claims 19 and 20 are also allowed as being dependent on claim 18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Crawford whose telephone number is (571)272-6004. The examiner can normally be reached on Mon-Fri 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2819

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,609,799	10-2009	Li, Gabriel	375/376
*	B	US-7,899,145	03-2011	Li, Gabriel	375/376
*	C	US-2004/0268278	12-2004	Hoberman et al.	716/005
*	D	US-5,991,135	11-1999	Saleh, Farid	361/56
*	E	US-7,030,661	04-2006	Doyle, James Thomas	327/102
*	F	US-2006/0165205	07-2006	Dally, William J.	375/371
*	G	US-2002/0089362	07-2002	Lutkemeyer, Christian A.J.	327/161
*	H	US-7,365,580	04-2008	Martin et al.	327/156
*	I	US-7,231,009	06-2007	Kim et al.	375/354
*	J	US-7,079,575	07-2006	Ho et al.	375/232
*	K	US-6,154,509	11-2000	Bishop, Wendell	375/371
*	L	US-6,292,016	09-2001	Jefferson et al.	326/39
*	M	US-6,927,604	08-2005	Boerstler et al.	326/93

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,042,263	05-2006	Johnson et al.	327/199
*	B	US-7,305,646	12-2007	McGrath et al.	326/38
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8	("20040120087" "5045714" "5574753" "6208193" "6239646" "6385214" "7069458" "7480849").PN.	US-PGPUB; USPAT	OR	ON	2012/02/14 12:59
L2	621	(pll (phase adj lock\$3 adj loop\$3)) and ((power supply voltage) adj (domain island))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L3	309	L2 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L4	236	L3 not silverbrook.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L5	161	L4 not print\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L6	109	L5 and logic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L7	52	L5 not L6	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:02
L8	17270	326/21-22,29.ccls. 327/99,147,407-408.ccls. 375/371,376.ccls. 713/400-401,500-503,600-601.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2012/02/14 13:03

			JPO; DERWENT; IBM_TDB			
L9	12460	L8 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:03
L10	4243	L9 and (mux\$3 multiplex\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:03
L11	1151	L10 and jitter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:03
L12	14	L11 and ((power supply voltage source) adj2 (domain isolat\$3 island))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:03
L13	17270	326/21-22,29.ccls. 327/99,147,407- 408.ccls. 375/371,376.ccls. 713/400- 401,500-503,600-601.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L14	12460	L13 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L15	18	L14 and (power adj2 domain)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L16	16	("20020089362" "20040120087" "20040120087" "20060156205" "20060165205" "5045714" "5045714" "6154509" "6208193" "6239646" "6292016" "6385214" "6927604" "6208193" "6239646" "6385214" "7042263" "7069458" "7079575" "7231009" "7365580" "7069458").PN.	US-PGPUB; USPAT	OR	ON	2012/02/14 13:04

L17	23692	(PLL DLL ((phase delay) adj lock\$3 adj loop)) and jitter\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L18	2020	(326/21-22,29.ccls. 327/99,147,407-408.ccls. 375/371,376.ccls. 713/400-401,500-503,600-601.ccls.) and L17 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L19	360	L18 and ((NAND NOR) adj (gate logic block))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L20	68	L19 and ((decreas\$3 reduc\$3 eliminat\$3 limit\$3) near jitter\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L21	68	L20 not L16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:04
L22	6174	375/371-376.ccls. and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L23	2431	L22 and jitter\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L24	955	L23 and (mux\$3 multiplex\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L25	174	L24 and ((NAND NOR) adj (gate logic block))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2012/02/14 13:05

JC

			DERWENT; IBM_TDB			
L26	150	(PLL DLL ((phase delay) adj lock\$3 adj loop)) and L25	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L27	25	L26 and ((decreas\$3 reduc\$3 eliminat\$3 limit\$3) near jitter\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L28	25	L27	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L29	77	(326/63,68,80-81.ccls.) and ((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L30	22	L29 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:05
L31	22	L29 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:06
L32	2444	((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:06
L33	1068	L32 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:06
L34	758	L33 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06

L35	68	L34 and "326"/\$.cls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06
L36	47	L35 not L31	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06
L37	471	((power supply voltage) adj2 island) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:06
L38	147	L37 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2012/02/14 13:06
L39	114	L38 and logic	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06
L40	13	L39 and "326"/\$.cls.	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06
L41	11	L40 not (L35 L36 L31)	US-PGPUB; USPAT; USOCR	OR	ON	2012/02/14 13:06

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L42	48	((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	USPAT; UPAD	OR	ON	2012/02/14 13:14
L43	9	((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:14
L44	112	((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:14
L45	103	L44 not L43	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:14
L46	8	L45 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:14
L47	4	((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	USPAT; UPAD	OR	ON	2012/02/14 13:14
L48	9	((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:15
L49	112	((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:15
L50	103	L49 not L48	US-PGPUB;	OR	ON	2012/02/14

			USPAT; UPAD			13:15
L51	8	L50 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:15
L52	1	L51 and @ad<"20050902"	US-PGPUB; USPAT; UPAD	OR	ON	2012/02/14 13:15

2/ 14/ 2012 1:28:43 PM
H:\ EAST\ Workspaces\ 13038028.wsp

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/JC/	1	5045714	B1	1991-09-03	Park Hyungmoo et al.	Entire Document
	2	6239646	B1	2001-05-29	Navabi Mohammad et al.	Entire Document
	3	6208193	B1	2001-03-27	Moyal Nathan et al.	Entire Document
	4	6385214	B1	2002-05-07	Kikuchi Hidekazu et al.	Entire Document
	5	7069458	B1	2006-06-27	Sardi Mohamed et al.	Entire Document
	6	5574753	B1	1996-11-12	Vartti et al.	Entire Document
	7	7480849	B1	2009-01-20	Tomita, Yoshimi	Entire Document
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Receipt date: 02/10/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit		2819	
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number		CD05110C2	

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
/JC/	1	20040120087	A1	2004-06-24	Ishii Hirotomo	Entire Document

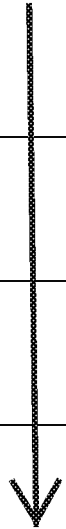
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/JC/	1	1187382	EP	A	2002-03-13	Agilent Technologies Inc.	Entire Document	☐
/JC/	2	1017193	EP	A	2000-07-05	Triquint Semiconductor Inc.	Entire Document	☐

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵	
/JC/	1	Written Opinion of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 6 pages	☐	
	2	International Search Report of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 4 pages	☐	
	3	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 06/15/2009; 7 pages	☐	

Receipt date: 02/10/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

/JC/	4	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 11/26/2008; 7 pages	☐
	5	USPTO Non-Final Rejection for Application Number 11/468,195 (CD05110) dated 06/09/2008; 6 pages	☐
	6	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 10/20/2010; 8 pages	☐
	7	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 07/22/2010; 8 pages	☐
	8	USPTO Non-Final Rejection for Application Number 12/577,477 (CD05110C1) dated 03/10/2010; 10 pages	☐

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EXAMINER SIGNATURE

Examiner Signature	/Jason Crawford/ (02/14/2012)	Date Considered	
--------------------	-------------------------------	-----------------	--

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

Receipt date: 02/10/2012 INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	13038028 - GAU: 2819
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

- ☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).
- OR
- ☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).
- ☐ See attached certification statement.
- ☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- ☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Larry Johnson/	Date (YYYY-MM-DD)	2012-02-10
Name/Print	Larry Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Search Notes 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
327	99,147,407-408	2/14/2012	JC
375	371,376	2/14/2012	JC
713	400-401,500-503,600-601	2/14/2012	JC
326	21-22,29	2/14/2012	JC

SEARCH NOTES		
Search Notes	Date	Examiner
See attached search	2/14/2012	JC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
All	see text search	2/14/2012	JC

	/JASON M CRAWFORD/ Primary Examiner.Art Unit 2819
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<i>Index of Claims</i> 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner JASON M CRAWFORD	Art Unit 2819

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☒ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	04/27/2011	10/06/2011	12/07/2011	02/14/2012											
1	1	✓	=	=	=											
2	2	✓	=	=	=											
3	3	✓	=	=	=											
4	4	✓	=	=	=											
5	5	✓	=	=	=											
6	6	✓	=	=	=											
-	7	✓	-	-	-											
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18	19	✓	✓	=	=											
19	20	✓	✓	=	=											



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CONFIRMATION NO. 8034

SERIAL NUMBER 13/038,028	FILING or 371(c) DATE 03/01/2011 RULE	CLASS 375	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. CD05110C2		
APPLICANTS Gabriel Li, San Francisco, CA; ** CONTINUING DATA ***** This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145 JC which is a CON of 11/468,195 08/29/2006 PAT 7,609,799 JC which claims benefit of 60/713,682 09/02/2005 JC ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/17/2011						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON CRAWFORD/</u> Examiner's Signature		☐ Met after Allowance JC Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS CYPRESS SEMICONDUCTOR CORPORATION 198 CHAMPION COURT SAN JOSE, CA 95134-1709 UNITED STATES						
TITLE CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

REQUEST FOR CONTINUED EXAMINATION(RCE)TRANSMITTAL (Submitted Only via EFS-Web)

Application Number	13/038,028	Filing Date	2011-03-01	Docket Number (if applicable)	CD05110C2	Art Unit	2819
First Named Inventor	Gabriel Li			Examiner Name	JASON CRAWFORD		

This is a Request for Continued Examination (RCE) under 37 CFR 1.114 of the above-identified application.

Request for Continued Examination (RCE) practice under 37 CFR 1.114 does not apply to any utility or plant application filed prior to June 8, 1995, or to any design application. The Instruction Sheet for this form is located at WWW.USPTO.GOV

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Note: If the RCE is proper, any previously filed unentered amendments and amendments enclosed with the RCE will be entered in the order in which they were filed unless applicant instructs otherwise. If applicant does not wish to have any previously filed unentered amendment(s) entered, applicant must request non-entry of such amendment(s).

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☐ Consider the arguments in the Appeal Brief or Reply Brief previously filed on _____

☐ Other _____

☒ Enclosed

☐ Amendment/Reply

☒ Information Disclosure Statement (IDS)

☐ Affidavit(s)/ Declaration(s)

☐ Other _____

MISCELLANEOUS

☐ Suspension of action on the above-identified application is requested under 37 CFR 1.103(c) for a period of months _____
(Period of suspension shall not exceed 3 months; Fee under 37 CFR 1.17(i) required)

☐ Other _____

FEES

The RCE fee under 37 CFR 1.17(e) is required by 37 CFR 1.114 when the RCE is filed.

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Deposit Account No 503781

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT REQUIRED

☒ Patent Practitioner Signature

☐ Applicant Signature

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Signature of Registered U.S. Patent Practitioner

Signature	/LARRY JOHNSON/	Date (YYYY-MM-DD)	2012-02-10
Name	LARRY JOHNSON	Registration Number	56861

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028
	Filing Date		2011-03-01
	First Named Inventor	Gabriel Li	
	Art Unit	2819	
	Examiner Name	CRAWFORD, JASON	
	Attorney Docket Number	CD05110C2	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5045714	B1	1991-09-03	Park Hyungmoo et al.	Entire Document
	2	6239646	B1	2001-05-29	Navabi Mohammad et al.	Entire Document
	3	6208193	B1	2001-03-27	Moyal Nathan et al.	Entire Document
	4	6385214	B1	2002-05-07	Kikuchi Hidekazu et al.	Entire Document
	5	7069458	B1	2006-06-27	Sardi Mohamed et al.	Entire Document
	6	5574753	B1	1996-11-12	Vartti et al.	Entire Document
	7	7480849	B1	2009-01-20	Tomita, Yoshimi	Entire Document
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028	
	Filing Date		2011-03-01	
	First Named Inventor	Gabriel Li		
	Art Unit	2819		
	Examiner Name	CRAWFORD, JASON		
	Attorney Docket Number	CD05110C2		

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20040120087	A1	2004-06-24	Ishii Hirotomo	Entire Document

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	1	1187382	EP	A	2002-03-13	Agilent Technologies Inc.	Entire Document	☐
	2	1017193	EP	A	2000-07-05	Triquint Semiconductor Inc.	Entire Document	☐

If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	Written Opinion of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 6 pages	☐
	2	International Search Report of the International Searching Authority dated 08/29/2006 for International Application Number PCT/US06/33947 (CD05110WO); 4 pages	☐
	3	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 06/15/2009; 7 pages	☐

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		13038028
	Filing Date		2011-03-01
	First Named Inventor	Gabriel Li	
	Art Unit	2819	
	Examiner Name	CRAWFORD, JASON	
	Attorney Docket Number	CD05110C2	

4	USPTO Notice of Allowance for Application Number 11/468,195 (CD05110) dated 11/26/2008; 7 pages	☐
5	USPTO Non-Final Rejection for Application Number 11/468,195 (CD05110) dated 06/09/2008; 6 pages	☐
6	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 10/20/2010; 8 pages	☐
7	USPTO Notice of Allowance for Application Number 12/577,477 (CD05110C1) dated 07/22/2010; 8 pages	☐
8	USPTO Non-Final Rejection for Application Number 12/577,477 (CD05110C1) dated 03/10/2010; 10 pages	☐

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EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

***EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	13038028
Filing Date	2011-03-01
First Named Inventor	Gabriel Li
Art Unit	2819
Examiner Name	CRAWFORD, JASON
Attorney Docket Number	CD05110C2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ Fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ None

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Larry Johnson/	Date (YYYY-MM-DD)	2012-02-10
Name/Print	Larry Johnson	Registration Number	56861

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
Gabriel Li) Examiner: CRAWFORD, JASON
Application No.: 13/038,028) Group Art Unit: 2819
Filed: March 01, 2011) Confirmation No.: 8034
For: CIRCUIT, SYSTEM AND METHOD)
FOR MULTIPLEXING SIGNALS)
WITH REDUCED JITTER)

**REQUEST FOR CONTINUED EXAMINATION
AND INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby submits the Request for Continued Examination to be considered with the IDS for the above referenced application. In compliance with the duty of disclosure under 37 CFR § 1.56 and in accordance with the practice under 37 CFR §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed PTO-1449.

In accordance with 37 CFR § 1.97(h), this Information Disclosure Statement is not to be construed as an admission that the information cited is or is considered to be material to patentability as defined in 37 CFR § 1.56(b), nor as an admission that the information constitutes prior art within the meaning of 35 USC §§ 102 and/or 103.

It is respectfully requested that the information listed on the PTO-1449 be considered by the Examiner, and that an initialed copy of the PTO-1449 be returned indicating that such information was considered.

Customer No.: 60909

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present application, and to credit any overpayments, to Deposit Account No. 50-3781.

Should the Patent Office have any questions regarding this submission or the application in general, the Patent Office is urged to contact the Applicant's attorney, Larry Johnson, by telephone at (408) 545-7194. All correspondence should continue to be directed to the address given below.

/

/

Respectfully submitted,

Date: 02/10/2012

By: /Larry Johnson/

Larry Johnson
Attorney for Applicant
Registration No. 56,861

Cypress Semiconductor Corporation
198 Champion Court
San Jose, CA 95134
Facsimile: (408) 545-6911
Customer No.: 60909

Customer No.: 60909



Espacenet

Bibliographic data: EP1017193 (A2) — 2000-07-05

Multiplexer

Inventor(s): DAVENPORT WILLIAM H [US]; TURUDIC ANDY [US] ±

Applicant(s): TRIQUINT SEMICONDUCTOR INC [US] ±

Classification: - **international:** H03K17/00; H03K17/693; H03K5/00; H04J3/04; H03K17/16; H03K17/62; (IPC1-7): H04J3/04
- **European:** H03K17/693; H04J3/04D

Application number: EP19990309733 19991203

Priority number (s): US19980208625 19981208

Also published as: EP1017193 (A3) US6310509 (B1) JP2000236244 (A)

Abstract of EP1017193 (A2)

A multiplexer (10) includes a first input device (12) that receives a first input signal (IN1) and a first select signal (SEL). When the first select signal (SEL) has a first state, the first input device (12) generates a first voltage (V1) at a first node (25) in response to the first input signal. When the first select signal (SEL) has a second state, the first input device generates a first reference voltage at the first node (25). A second input device (20) receives a second input signal (IN2) and a second select signal (NSEL) related to the first select signal (SEL). When the second select signal (NSEL) has a first state, the second input device (20) generates a second voltage (22) at a second node (31) in response to the second input signal. When the second select signal (NSEL) has a second state, the second input device (20) generates a second reference voltage at the second node (31). A first output buffer (40) has an input terminal coupled to the first node (25) and an output terminal coupled to an output node (52). The first output buffer (40) tracks the first voltage (V1) at the output terminal, and presents a high impedance at the output terminal when the first reference voltage is present at the first node. A second output buffer (44) has an input terminal coupled to the second node (31) and an output terminal coupled to the output node (52). The second output buffer (44) tracks the second voltage (V2) at the output terminal, and presents a high impedance at the output terminal (52) when the second reference voltage is present at the second node (31).

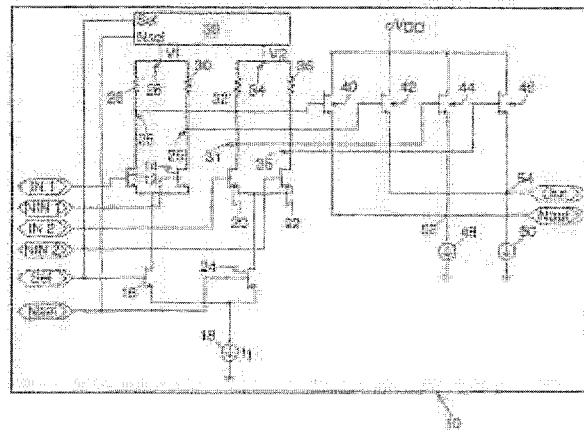


Fig. 1

Last updated: 5.12.2011 Worldwide Database 5.7.31; 92p



Espacenet

Bibliographic data: EP1187382 (A2) — 2002-03-13

Multiplexer with channel sectioning, selectively actuated current sources, and common-base amplifiers

Inventor(s): FLOWER GRAHAM M [US]; HO PETER [US];
WALKER RICHARD C [US] ±

Applicant(s): AGILENT TECHNOLOGIES INC [US] ±

Classification: **international:** **H03K17/00; H03K17/62;**
H04J3/04; H03K17/00;
H03K17/62; H04J3/04;
(IPC1-7): H03K17/62;
H04J3/04

- European:

Application number: EP20010111081 20010508

Priority number(s): US20000654635 20000905

Also published as: EP1187382 (A3)

Abstract of EP1187382 (A2)

A multiplexer (28) for use with switching apparatus for data communication networks. The multiplexer topology includes two or more groupings, or sections (29), each containing a plurality of individual channels (11). Each of the channels has an input buffer amplifier (12) and an output buffer amplifier (13). The outputs (26) of all of the channels (11) within a each particular channel section (29) are connected in parallel relation, and fed to respective common-base transistor amplifiers (31). The outputs of all of the common-base amplifiers (31) for each channel section (29), in turn, are connected in parallel and fed to the inputs of a pair of emitter-follower amplifiers (43). Through the use of selectively actuated current sources, each multiplexer channel (11) is normally biased off, unless that channel is selected for a switching operation. Bleeder current sources (34) are applied to the emitters of the common-base amplifiers (31) to reduce output jitter from the channels (11) which are biased off. The multiplexer architecture provides high

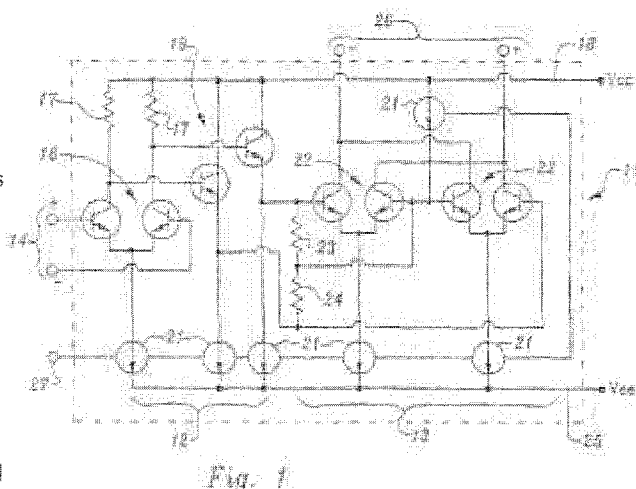


Fig. 1

speed operation from channel sectioning, and low power consumption by reducing both the amount of current drawn and the voltage potential necessary, to operate the multiplexer (28).

Last updated: 5.12.2011 EP Database 5.7.32; ult

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2006/033947

International filing date (day/month/year)
29.08.2006

Priority date (day/month/year)
02.09.2005

International Patent Classification (IPC) or both national classification and IPC
INV. H04J3/04 H03M9/00 H03K19/173 H03K17/62

Applicant
CYPRESS SEMICONDUCTOR CORP.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office
D-80298 Munich
Tel. +49 89 2399 - 0 Tx: 523656 epmu d
Fax: +49 89 2399 - 4465

Date of completion of
this opinion

see form
PCT/ISA/210

Authorized Officer

Belloni, Paolo

Telephone No. +49 89 2399-8025



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/033947

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in electronic form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2006/033947

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-16,18-20
	No: Claims	17
Inventive step (IS)	Yes: Claims	
	No: Claims	1-20
Industrial applicability (IA)	Yes: Claims	1-20
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

The following documents are referred to in this opinion; the numbering will be adhered to in the rest of the procedure:

D1: US 5 045 714

D2: US 2004/0120087

D3: EP 1 187 382

1. Lack of novelty (Article 33(2) PCT) for claim 17

- 1.1 The solution proposed in independent claim 17 of the present application cannot be considered as being novel with respect to the disclosure of D1 (Art. 33(2) PCT). D1, in fact, discloses (the references in parentheses applying to D1) a method for multiplexing signals comprising:
- supplying a first signal to a first logic gate and a second signal to a second logic gate (*A **multiplexer** for receiving m data input signals and providing an output signal, where $m > 1$, the output signal being selected from the m data input signals, said multiplexer comprising: a data input stage including m data input gate circuits, each data input gate circuit receiving a uniquely associated data input signal and having an output, see claim 1);*
- deactivating one of the first or second signals by supplying a control signal to the first and second logic gates (*a **channel select control stage** including a plurality of channel select buffer circuits, each channel select buffer circuit receiving a uniquely associated channel select control signal and having an output; ... **means connecting the outputs of said channel select control stage ... to inputs of said data input gate circuits**, said data input gate circuits being responsive to each possible unique combination of received channel select control signals for causing a selected one of said data input gate circuits, being selected in response to said uniquely associated data input signals, to pass a received data input signal to the output of the selected one of said data input gate circuits while inhibiting passage of received data input signals by the remaining data input gate circuits, see claim 1);* and
- forwarding an active one of the first or second signals to a third logic gate (***output means**, including an output terminal, for applying the output from the selected one of said data input gate circuit to said output terminal as the multiplexer output signal, see claim 1).*

It is here noted that the expressions addressing the fact that the multiplexed signals have reduced jitter cannot be considered as features limiting the method and do not add any substantial step to it, on the contrary they rather attempt to define the subject-matter in terms of a result to be achieved and doing so the matter for which protection is sought is not defined.

It is pointed out that even if the applicant would interpret such non-features as to enable him to allege that the subject matter of claim 17 is new, said claim would not be considered as involving an inventive step (Article 33(3) PCT) because D1 aims at improving the noise margin of the gate (see description), which is directly linked to the jitter problematic.

2. Lack of inventive step (Article 33(3) PCT) for claims 1-16 and 18-20

2.1 The subject-matter of independent claim 1 does not seem to involve an inventive step. In fact, claim 1 claims the same corresponding features as in method claim 17 with the additional feature of having a different power supply domain for each of the three logic gates and the logic block. Starting from the disclosure of D1, which anticipates the subject-matter of claim 17 as discussed at paragraph 1, the problem solved by the distinguishing feature mentioned above would be how to prevent performance degradation due to interference and noise between circuit blocks mounted on the same chip. However, in seeking a solution to that problem, the skilled person would become aware of document D2, because D2 deals with integrated semiconductor devices and it addresses the same problem just mentioned above (see par. 0005 of D2). Since D2 discloses that *"To do so, mutually independent power supply terminals are sometimes provided for circuit blocks whose functions differ from each other even though the same power supply voltage is applied to the circuit blocks"* (see par. 0005), it would be obvious to the person skilled in the art to incorporate the feature disclosed in D2 (a different power domain for each logic circuit) onto the circuit known from D1 (the multiplexer described above at par. 1), so that performance degradation due to interference and noise between circuit blocks mounted on the same chip is prevented. Doing so, the skilled person would arrive at the circuit of claim 1 without involving any inventive step.

2.2 The same reasoning applies also for claim 10 and claim 18 (it is considered that the further system component in claim 10 coupled to the output of the circuit as in

claim 1 and the spatial separation of the gates of claim 18 do not add anything of inventive significance because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice).

- 2.3 Furthermore, it is noted that the subject-matter of claims 1, 10 and 18 is not inventive with respect to the disclosure of D3 either. In fact, D3 discloses that "***The multiplexer, or MUX, of the present invention is comprised of a plurality of discrete, independently powered, channel sections. Each channel section, in turn, includes a plurality of individual channels ... The components of each channel are powered by switchable bias current sources which are selectively actuated by a decoder. Only the current sources for the channel selected to route the signal are activated at any given moment ... The differential outputs of the channels within each channel section are connected in parallel, and fed to a pair of common-base amplifiers ... This effectively reduces signal jitter for the data passing through the multiplexer ... The outputs of the emitter follower amplifiers then constitute the outputs of the multiplexer ... Arranging the channels into groups or sections reduces the parasitic capacitance which would otherwise result from a single, large scale parallel connection arrangement of the channel outputs***" (see par. 0008-0013) and also "***means for selecting a particular said channel within said plurality of channel sections, and routing an electrical signal delivered to its channel input to its channel output***" (see claim 2). The only difference in the application being that also the decoder (or logic block) and the pair of output common-base amplifiers (or third logic gate) are arranged within own power supply domains, this difference does not add anything of inventive significance with respect to the disclosure of D3 because it is considered a minor design detail and is either directly derivable from the above mentioned prior art (see in particular D2) or represents standard practice.
- 2.4 Finally, the features defined in dependent claims 2-9, 11-16 and 19-20 do not add anything of inventive significance to the claim to which they refer because they relate to minor design details and are either directly derivable from the above mentioned prior art documents or represent standard practice.
In particular, the features of claims 2, 3, 11 and 12 are to be found in D1 in claims 2, 3, 10 and 11.

Electronic Patent Application Fee Transmittal				
Application Number:		13038028		
Filing Date:		01-Mar-2011		
Title of Invention:		CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Larry Joel Johnson/Lauren Navarro		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Request for continued examination	1801	1	930	930
Total in USD (\$)				930

Electronic Acknowledgement Receipt	
EFS ID:	12053911
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Lauren Navarro
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	10-FEB-2012
Filing Date:	01-MAR-2011
Time Stamp:	17:57:57
Application Type:	Utility under 35 USC 111(a)

Payment information:	
Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$930
RAM confirmation Number	5006
Deposit Account	503781
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Continued Examination (RCE)	CD05110C2_RCE_02102012.pdf	697272	no	3
			1aaf7eba3b7281c29dd1e601b69c349aa29d8029		
Warnings:					
Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	CD05110C2_IDSform_02102012.pdf	614783	no	5
			0af21b474b898e548392afb39837d5fca18dd097		
Warnings:					
Information:					
3	Transmittal Letter	CD05110C2_TransmittalLetter_02102012.pdf	19108	no	2
			1031c9b3b0446f9967e79b8a8e3c52d9fcb d5961		
Warnings:					
Information:					
4	Foreign Reference	Foreign_EP1017193.pdf	310349	no	1
			7cb2795feeb5517ddb827b9518d0df2cb20e5260		
Warnings:					
Information:					
5	Foreign Reference	Foreign_EP1187382.pdf	365674	no	2
			6ac66e14a67349b868e9b7f9ad9538fbdadafebb		
Warnings:					
Information:					
6	Non Patent Literature	CD05110_SearchReport_08292006.pdf	156702	no	4
			da1d431e50bad50eaa08f50029356faabc7ff3416		
Warnings:					
Information:					
7	Non Patent Literature	CD05110_WrittenOpinion_08292006.pdf	273489	no	6
			ddb293a393b1bac3eb4eb43cd2d7d0f9f96c3c9d		
Warnings:					
Information:					
8	Non Patent Literature	CD05110_NOA_06152009.pdf	354881	no	7
			b2b27dd92594ed09d58a7e4c6d13fecdf094798d		

Warnings:					
Information:					
9	Non Patent Literature	CD05110_NOA_11262008.pdf	355364	no	7
			663d6618daebdc1c6f62934c5a7de441a225396d		
Warnings:					
Information:					
10	Non Patent Literature	CD05110_NonFinalOA_06092008.pdf	218388	no	6
			5e1fb6be905e01c19d9c1f23713a0a0665962d81		
Warnings:					
Information:					
11	Non Patent Literature	CD05110C1_NOA_10202010.pdf	367455	no	8
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Warnings:					
Information:					
12	Non Patent Literature	CD05110C1_NOA_07222010.pdf	367941	no	8
			077228826887228ee19ae937e32c7016c6472b2a		
Warnings:					
Information:					
13	Non Patent Literature	CD05110C1_NonFinalOA_03102010.pdf	362378	no	10
			ef8af9067c194f00d59793f7e51a966efbd917b8		
Warnings:					
Information:					
14	Fee Worksheet (SB06)	fee-info.pdf	30599	no	2
			9b5de89cc86549591323a8c27e7a58f96b98d08b		
Warnings:					
Information:					
Total Files Size (in bytes):			4494383		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

60909 7590 12/12/2011
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 12/12/2011

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/038,028

03/01/2011

Gabriel Li

CD05110C2

8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1740	\$300	\$0	\$2040	03/12/2012

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or **Fax** (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

60909 7590 12/12/2011
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

13/038,028

03/01/2011

Gabriel Li

CD05110C2

8034

TITLE OF INVENTION: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional

NO

\$1740

\$300

\$0

\$2040

03/12/2012

EXAMINER	ART UNIT	CLASS-SUBCLASS
CRAWFORD, JASON	2819	375-376000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.
- ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/038,028	03/01/2011	Gabriel Li	CD05110C2	8034

60909	7590	12/12/2011
CYPRESS SEMICONDUCTOR CORPORATION		
198 CHAMPION COURT		
SAN JOSE, CA 95134-1709		

EXAMINER
CRAWFORD, JASON

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 12/12/2011

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No.	Applicant(s)	
	13/038,028	LI, GABRIEL	
	Examiner	Art Unit	
	Jason M. Crawford	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/2/2011.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-6 and 8-20.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☒ Notice of References Cited (PTO-892) | 5. ☐ Notice of Informal Patent Application |
| 2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. ☐ Examiner's Amendment/Comment |
| 4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. ☒ Examiner's Statement of Reasons for Allowance |
| | 9. ☐ Other ____. |

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

DETAILED ACTION

Terminal Disclaimer

The terminal disclaimers filed on 10/21/2011 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent Nos. 7,609,799 and 7,899,145 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Allowable Subject Matter

Claims 1-6 and 8-20 are allowed. The following is an examiner's statement of reasons for allowance:

In regards to claim 1, the prior art discloses of the claimed subject matter with the exception of wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 2-6 and 8-11 are also allowed as being dependent on claim 1.

In regards to claim 12, the prior art discloses of the claimed subject matter with the exception of wherein: a first of the three logic gates is operatively coupled with a first signal; a second of the three logic gates is operatively coupled with a second signal; and a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and a system component coupled to

Art Unit: 2819

the third logic gate, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 13-17 are also allowed as being dependent on claim 12.

In regards to claim 18, the prior art discloses of the claimed subject matter with the exception of wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain, nor would it have been obvious to one of ordinary skill in the art to do so.

Claims 19 and 20 are also allowed as being dependent on claim 18.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Crawford whose telephone number is (571)272-6004. The examiner can normally be reached on Mon-Fri 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 2819

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,609,799	10-2009	Li, Gabriel	375/376
*	B	US-7,899,145	03-2011	Li, Gabriel	375/376
*	C	US-2004/0268278	12-2004	Hoberman et al.	716/005
*	D	US-5,991,135	11-1999	Saleh, Farid	361/56
*	E	US-7,030,661	04-2006	Doyle, James Thomas	327/102
*	F	US-2006/0165205	07-2006	Dally, William J.	375/371
*	G	US-2002/0089362	07-2002	Lutkemeyer, Christian A.J.	327/161
*	H	US-7,365,580	04-2008	Martin et al.	327/156
*	I	US-7,231,009	06-2007	Kim et al.	375/354
*	J	US-7,079,575	07-2006	Ho et al.	375/232
*	K	US-6,154,509	11-2000	Bishop, Wendell	375/371
*	L	US-6,292,016	09-2001	Jefferson et al.	326/39
*	M	US-6,927,604	08-2005	Boerstler et al.	326/93

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,042,263	05-2006	Johnson et al.	327/199
*	B	US-7,305,646	12-2007	McGrath et al.	326/38
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**RESPONSE UNDER 37 C.F.R. §1.116
--EXPEDITED PROCEDURE--
EXAMINING GROUP 2819**

Attorney Docket No: CD05110C2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

Art unit: 2819

Examiner: Crawford, Jason

For: CIRCUIT, SYSTEM AND METHOD
FOR MULTIPLEXING SIGNALS
WITH REDUCED JITTER

Confirmation No.: 8034

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is
being submitted electronically via EFS Web
on the date shown below.

/Kitty Yuen/ December 2, 2011
Name *Date*

AMENDMENT AND RESPONSE TO FINAL OFFICE ACTION

E-Filed via EFS-Web

Mail Stop: AF

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir/Madam:

In response to the Final Office Action mailed on October 13, 2011, Applicant requests that the Examiner enter the following amendments and consider the following remarks.

Claim Listing begins on page 2 of this document.

Remarks begin on page 5 of this document.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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BIB DATA SHEET

CONFIRMATION NO. 8034

SERIAL NUMBER 13/038,028	FILING or 371(c) DATE 03/01/2011 RULE	CLASS 375	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. CD05110C2		
APPLICANTS Gabriel Li, San Francisco, CA; ** CONTINUING DATA ***** This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145 JC which is a CON of 11/468,195 08/29/2006 PAT 7,609,799 JC which claims benefit of 60/713,682 09/02/2005 JC ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/17/2011						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON CRAWFORD/</u> Examiner's Signature		☐ Met after Allowance JC Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS CYPRESS SEMICONDUCTOR CORPORATION 198 CHAMPION COURT SAN JOSE, CA 95134-1709 UNITED STATES						
TITLE CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

<i>Index of Claims</i> 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner JASON M CRAWFORD	Art Unit 2819

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☒ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	04/27/2011	10/06/2011	12/07/2011												
1	1	✓	=	=												
2	2	✓	=	=												
3	3	✓	=	=												
4	4	✓	=	=												
5	5	✓	=	=												
6	6	✓	=	=												
-	7	✓	-	-												
8	8	✓	=	=												
9	9	✓	=	=												
7	10	✓	=	=												
10	11	✓	=	=												
11	12	✓	✓	=												
12	13	✓	✓	=												
13	14	✓	✓	=												
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15	16	✓	✓	=												
16	17	✓	✓	=												
17	18	✓	✓	=												
18	19	✓	✓	=												
19	20	✓	✓	=												

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	76	(326/63,68,80-81.ccls.) and ((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L2	22	L1 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L3	593	(pll (phase adj lock\$3 adj loop\$3)) and ((power supply voltage) adj (domain island))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L4	309	L3 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L5	236	L4 not silverbrook.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L6	161	L5 not print\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L7	109	L6 and logic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L8	52	L6 not L7	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L9	17077	326/21-22,29.ccls. 327/99,147,407-408.ccls. 375/371,376.ccls. 713/400-401,500-503,600-601.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L10	12458	L9 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17

L11	4241	L10 and (mux\$3 multiplex\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L12	1150	L11 and jitter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L13	902	L12 and (PLL DLL ((phase\$1 delay\$3) adj lock\$3 adj loop))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L14	683	L13 and logic and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L15	79	L14 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:17
L16	2	"20040268278".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:18
L17	1	L16 and clock\$3 and logic and ((power supply voltage) adj (island domain))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:18
L18	2	((multiplex\$3 mux\$3) and jitter and logic and ((supply power) adj domain)).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:18
L19	7	((multiplex\$3 mux\$3) and jitter and logic and (PLL DLL ((phase\$1 delay\$3) adj lock\$3 adj loop)) and (phase adj shift\$3)).clm.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/12/07 08:19

JC

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L20	9	((((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2011/12/07 08:19
L21	108	((((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2011/12/07 08:19
L22	99	L21 not L20	US-PGPUB; USPAT; UPAD	OR	ON	2011/12/07 08:19

L23	7	L22 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; UPAD	OR	ON	2011/12/07 08:19
L24	1	L23 and @ad<"20050902"	US-PGPUB; USPAT; UPAD	OR	ON	2011/12/07 08:19

12/ 7/ 2011 8:34:06 AM
H:\ EAST\ Workspaces\ 13038028.wsp

Search Notes 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
327	99,147,407-408	12/7/2011	JC
375	371,376	12/7/2011	JC
713	400-401,500-503,600-601	12/7/2011	JC
326	21-22,29	12/7/2011	JC

SEARCH NOTES		
Search Notes	Date	Examiner
See attached search	12/7/2011	JC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
All	of Above	12/7/2011	JC

	/JASON M CRAWFORD/ Primary Examiner.Art Unit 2819
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Application Number 	Application/Control No. 13/038,028	Applicant(s)/Patent under Reexamination LI, GABRIEL	

Document Code - DISQ	Internal Document – DO NOT MAIL
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TERMINAL DISCLAIMER	☒ APPROVED	☐ DISAPPROVED
Date Filed : October 21, 2011	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
Henry D. Jefferson 2 td's are approved

**RESPONSE UNDER 37 C.F.R. §1.116
--EXPEDITED PROCEDURE--
EXAMINING GROUP 2819**

Attorney Docket No: CD05110C2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

Art unit: 2819

Examiner: Crawford, Jason

For: CIRCUIT, SYSTEM AND METHOD
FOR MULTIPLEXING SIGNALS
WITH REDUCED JITTER

Confirmation No.: 8034

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is
being submitted electronically via EFS Web
on the date shown below.

/Kitty Yuen/ December 2, 2011
Name *Date*

AMENDMENT AND RESPONSE TO FINAL OFFICE ACTION

E-Filed via EFS-Web

Mail Stop: AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir/Madam:

In response to the Final Office Action mailed on October 13, 2011, Applicant requests that the Examiner enter the following amendments and consider the following remarks.

Claim Listing begins on page 2 of this document.

Remarks begin on page 5 of this document.

Claim Listing:

1. (Previously presented) An apparatus, comprising:
a plurality of power supply domains; and
a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains, wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains.
2. (Original) The apparatus of claim 1, wherein the plurality of power supply domains comprises at least three power supply domains and wherein the plurality of logic components comprise at least three logic components.
3. (Previously presented) The apparatus of claim 1, wherein the plurality of power supply domains comprises first, second, third and fourth power supply domains, wherein a plurality of logic components comprises:
a first logic gate arranged within the first power supply domain and configured to operate with a first clock signal;
a second logic gate arranged within the second power supply domain and configured to operate with a second clock signal;
a logic block arranged within the third power supply domain and coupled to the first and second logic gates; and
a third logic gate arranged within the fourth power supply domain and coupled to the first and second logic gates.
4. (Original) The apparatus of claim 3, wherein the first, second and third logic gates each comprise either a two-input NAND gate or a two-input NOR gate.

5. (Original) The apparatus of claim 3, wherein the first logic gate has a first input coupled to receive the first signal and second input coupled to receive a control signal from the logic block,

wherein the second logic gate has a first input coupled to receive the second signal and a second input coupled to receive the control signal from the logic block,

wherein the logic block is configured to supply the control signal to the first and second logic gates to deactivate one of the first and second signal, and

wherein the third logic gate has inputs coupled to receive outputs of the first and second logic gates and transmit either the first signal or the second signal, which has not been deactivated by the logic block.

6. (Original) The apparatus of claim 1, wherein each of the plurality of power supply domains is supplied with its own power bus and physically separated from logic components arranged in other power supply domains.

7. (Canceled)

8. (Original) A multiplexer comprising the apparatus of claim 1.

9. (Original) A clock generation device comprising the apparatus of claim 1.

10. (Original) A motherboard comprising the clock generation device of claim 6.

11. (Original) A phone comprising the apparatus of claim 1.

12. (Original) A system, comprising:

a circuit comprising three logic gates and a logic block, each arranged within a separate power supply domain, wherein:

a first of the three logic gates is operatively coupled with a first signal;

a second of the three logic gates is operatively coupled with a second signal; and

a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and
a system component coupled to the third logic gate.

13. (Original) The system of claim 12, wherein the first, second and third logic gates each comprise either a NAND gate or a NOR gate.

14. (Original) The system of claim 12, wherein the first and second signals comprise clock signals.

15. (Original) The system of claim 12, further comprising one or more phase shift apparatuses coupled to the circuit.

16. (Original) The system of claim 15, wherein the one or more phase shift apparatuses each comprise either a phase locked loop (PLL) device or a delay locked loop (DLL) device.

17. (Original) The clock network comprising the system of claim 15.

18. (Original) A method, comprising:
deactivating one of a first signal or a second signal by supplying a control signal to first and second logic gates; and
forwarding an active one of the first or second signals to a third logic gate, wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain.

19. (Original) The method of claim 18, wherein the first and second signals comprise clock signals.

20. (Original) The method of claim 19, wherein the first and second signals comprise data signals.

REMARKS

Applicants request reconsideration of this application in view of the following remarks. For the Examiner's convenience and reference, Applicants' remarks are presented in substantially the same order in which the corresponding issues were raised in the Office Action.

Status of the Claims

Claims 1-6 and 8-20 are pending. No claims have been amended, added, or canceled. No new matter has been added.

Terminal Disclaimer

As noted in the Final OA, the terminal disclaimers filed on 7/28/2011 were not accepted. New terminal disclaimers were filed on 10/21/2011, using the forms for "Terminal Disclaimer to Obviate a Double Patenting Rejection over a 'Prior' Patent," signed by the undersigned attorney, Kevin O. Grange. Also, a new Power of Attorney was filed for the present application. The new Power of Attorney appoints practitioners associated with the customer number 60909, one of which is the undersigned attorney, Kevin O. Grange. The power of attorney has been accepted as evidenced by the Notice of Acceptance of Power of Attorney, mailed 10/31/2011. As such, Applicant has filed terminal disclaimers in compliance with 37 CFR 1.321(c), and has previously paid the required fees under 37 CFR 1.20(d).

Double Patenting

Claims 12-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10 and 17 of U.S. patent No. 7,609,799. Applicant respectfully submits that the terminal disclaimers filed on 10/21/2011 overcome the rejection, and requests that the rejection be withdrawn.

Allowed Claims

Claims 1-6 and 8-11 are allowed.

RESERVATION OF RIGHTS

Applicants believe every assertion by the Office Action has been addressed, however in the interest of clarity and brevity, Applicants may not have asserted every available argument for each assertion made in the Office Action. Applicants reserve all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. §1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicants do not admit that any of the cited references or any other references of record is relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicants timely object to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP §2144.03. Applicants reserve all rights to pursue any canceled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP §821.04.

CONCLUSION

It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Larry Johnson, by telephone at (408) 545-7194.

Please charge any additional fees under 37 C.F.R. §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present application, or apply any credits to our PTO deposit account number: 501358.

Respectfully submitted,

LOWENSTEIN SANDLER PC

Date: Dec. 2, 2011

/Kevin O. Grange/

Kevin O. Grange

Reg. No. 60,793

Customer No.: 60909
Lowenstein Sandler LLP
590 Forest Avenue
Palo Alto, CA 94301

Electronic Acknowledgement Receipt	
EFS ID:	11531059
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Kevin Grange
Filer Authorized By:	
Attorney Docket Number:	CD05110C2
Receipt Date:	02-DEC-2011
Filing Date:	01-MAR-2011
Time Stamp:	13:57:45
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		01682-863-L0861C2-Response-to-Final_12-02-2011.pdf	48440	yes	7
			ed80079afe17be9fd8ca4bd2e493ae5c8381327a		

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment After Final	1	1
	Claims	2	4
	Applicant Arguments/Remarks Made in an Amendment	5	7
Warnings:			
Information:			
Total Files Size (in bytes):		48440	
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/038,028		Filing Date 03/01/2011		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	12/02/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
Total (37 CFR 1.16(i))	* 19	Minus	** 20	= 0	X \$	=		X \$60=	0	
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$	=		X \$250=	0	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)		
Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=		X \$	=	
Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=		X \$	=	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/038,028	03/01/2011	Gabriel Li	CD05110C2

60909
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

CONFIRMATION NO. 8034
POA ACCEPTANCE LETTER



Date Mailed: 10/31/2011

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/21/2011.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/s/brahim/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/038,028	03/01/2011	Gabriel Li	CD05110C2

60909
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

CONFIRMATION NO. 8034
POWER OF ATTORNEY NOTICE



Date Mailed: 10/31/2011

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 10/21/2011.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/sibrahim/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby revoke all previous powers of attorney given in the application identified in the attached statement under 37 CFR 3.73(b).

I hereby appoint:

☒ Practitioners associated with the Customer Number:

60909

OR

☐ Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number	Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application identified in the attached statement under 37 CFR 3.73(b) to:

☒ The address associated with Customer Number:

60909

OR

☐ Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

Assignee Name and Address:

CYPRESS SEMICONDUCTOR CORPORATION
198 Champion Court
San Jose, California 95134

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature	<i>Andrew J. Bateman</i>	Date	10/11/2011
Name	ANDREW J. BATEMAN, REG. NO. 45,573	Telephone	408-943-6878
Title	DIRECTOR OF INTELLECTUAL PROPERTY		

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**Docket Number (Optional)
CD05110C2

In re Application of: Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

For: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

The owner*, Cypress Semiconductor Corporation, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,899,145 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 60,793

/Kevin O. Grange/

Signature

September 21, 2011

Date

Kevin O. Grange

Typed or printed name

(650) 433-5748

Telephone Number

- ☐ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
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8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		13038028		
Filing Date:		01-Mar-2011		
Title of Invention:		CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Andrew J. Bateman/Penny Jackson		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or terminal disclaimer	1814	2	160	320
Total in USD (\$)				320

Electronic Acknowledgement Receipt	
EFS ID:	11242163
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Andrew J. Bateman/Penny Jackson
Filer Authorized By:	Andrew J. Bateman
Attorney Docket Number:	CD05110C2
Receipt Date:	21-OCT-2011
Filing Date:	01-MAR-2011
Time Stamp:	17:01:36
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Assignee showing of ownership per 37 CFR 3.73(b).	CD05110C23_73B.pdf	131141 f88388226c9c59215bc797f87a7f7b10b1255e34	no	2
Warnings:					
Information:					

2	Power of Attorney	CD05110C2PowerofAttorney.pdf	139191	no	2
			66093facdd38eded31f29f54a0bf6276c7d3a18e		
Warnings:					
Information:					
3	Terminal Disclaimer Filed	CD05110C2TerminalDisclaimer7609799.pdf	128694	no	2
			9ff82eb004fbd892142f04222a93f12b36d9aa38		
Warnings:					
Information:					
4	Terminal Disclaimer Filed	CD05110C2TerminalDisclaimer7899145.pdf	127830	no	2
			ea6531ca79242242227b1d811555ce7493444321		
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30557	no	2
			9598a7ff756c77649d564c2d076f3decc9ec6ee7		
Warnings:					
Information:					
Total Files Size (in bytes):			557413		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: Gabriel LiApplication No./Patent No.: 13/038,028Filed/Issue Date: March 1, 2011

Titled:

CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

Cypress Semiconductor Corporation, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest in;
2. ☐ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. ☐ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 018186, Frame 0711, or for which a copy therefore is attached.

OR

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

- ☐ As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

Date

ANDREW J. BATEMAN, REG. NO. 45,573

Printed or Typed Name

DIRECTOR OF INTELL. PROPERTY

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

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The information provided by you in this form will be subject to the following routine uses:

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2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING
REJECTION OVER A "PRIOR" PATENT**

Docket Number (Optional)

CD05110C2

In re Application of: Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

For: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

The owner*, Cypress Semiconductor Corporation, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 7,609,799 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent of record. Reg. No. 60,793

/Kevin O. Grange/

Signature

September 21, 2011

Date

Kevin O. Grange

Typed or printed name

(650) 433-5748

Telephone Number

- ☐ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

This collection of information is required by 37 CFR 1.321. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/038,028

03/01/2011

Gabriel Li

CD05110C2

8034

60909

7590

10/13/2011

CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT

PAPER NUMBER

2819

MAIL DATE

DELIVERY MODE

10/13/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<i>Examiner-Initiated Interview Summary</i>	Application No. 13/038,028	Applicant(s) LI, GABRIEL	
	Examiner Jason M. Crawford	Art Unit 2819	

All participants (applicant, applicant's representative, PTO personnel):

(1) Jason M. Crawford. (3) _____.

(2) Kevin O. Grange (Reg 60,793). (4) _____.

Date of Interview: 21 September 2011.

Type: ☒ Telephonic ☐ Video Conference
 ☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☐ No.
 If Yes, brief description: _____.

Issues Discussed ☐101 ☐112 ☐102 ☐103 ☒Others
 (For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1-6 and 8-20.

Identification of prior art discussed: Li (US 7,899,145), Li (US 7,609,799).

Substance of Interview
 (For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

The Examiner called Mr. Grange to inform him of the disapproval of the Terminal Disclaimers filed on 7/28/2011 for having used the wrong form and also having an issue with Power of Attorney such that he could file new ones to be approved and to expedite prosecution. The Examiner also called on another date in August to address the same issue as well, however, no replacement Terminal Disclaimers were ever filed.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/Jason M. Crawford/ Primary Examiner, Art Unit 2819	
--	--

Office Action Summary	Application No.	Applicant(s)	
	13/038,028	LI, GABRIEL	
	Examiner	Art Unit	
	Jason M. Crawford	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 July 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-6 and 8-20 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 1-6 and 8-11 is/are allowed.
- 7) ☒ Claim(s) 12-20 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☒ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>9/21/11</u> . |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) ☐ Other: ____. |

DETAILED ACTION

Terminal Disclaimer

The Terminal Disclaimers filed on 7/28/2011 were NOT accepted because the Applicant used the wrong forms; the filed forms pertained to a Terminal Disclaimer over a reference application instead of an issued patent. Also there were Power of Attorney issues that the Examiner determined were due to disconnect in PALM of the listed attorneys in application and the customer number. The Examiner called the Applicant's representative on 9/21/11 and another date in August to attempt to correct the Terminal Disclaimer issues and have the application wrap up prosecution; however, no new Terminal Disclaimers were filed.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

Art Unit: 2819

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 12-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 10 and 17 of U.S. Patent No. 7,609,799. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

In regards to claim 12, the pending application and claim 10 of conflicting patent '799 both claim:

*A system, comprising:
a circuit comprising three logic gates and a logic block, each arranged within a separate power supply domain, wherein:
a first of the three logic gates is operatively coupled with a first signal;
a second of the three logic gates is operatively coupled with a second signal; and
a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and
a system component coupled to the third logic gate.*

Claims 13-17 are also rejected as being dependent on claim 12.

In regards to claim 18, the pending application and claim 17 of conflicting patent '799 both claim:

*A method, comprising:
deactivating one of a first signal or a second signal by supplying a control signal to first and second logic gates; and
forwarding an active one of the first or second signals to a third logic gate, wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain.*

Claims 19 and 20 are also rejected as being dependent on claim 18.

Allowable Subject Matter

2. Claims 1-6 and 8-11 are allowed. The following is an examiner's statement of reasons for allowance:

In regards to claim 1, the prior art discloses of the claimed subject matter with the exception of wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains, nor would it have been obvious to one of ordinary skill in the art to do so. Claims 2-6 and 8-11 are also allowed as being dependent on claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments filed 7/28/2011 have been fully considered but they are not persuasive. As indicated above, the Terminal Disclaimer filed was not accepted and the rejection is maintained for claims 12-20.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Crawford whose telephone number is (571)272-6004. The examiner can normally be reached on Mon-Fri 7:00am-3:30pm.

Art Unit: 2819

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M. Crawford/
Primary Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,609,799	10-2009	Li, Gabriel	375/376
*	B	US-7,899,145	03-2011	Li, Gabriel	375/376
*	C	US-2004/0268278	12-2004	Hoberman et al.	716/005
*	D	US-5,991,135	11-1999	Saleh, Farid	361/56
*	E	US-7,030,661	04-2006	Doyle, James Thomas	327/102
*	F	US-2006/0165205	07-2006	Dally, William J.	375/371
*	G	US-2002/0089362	07-2002	Lutkemeyer, Christian A.J.	327/161
*	H	US-7,365,580	04-2008	Martin et al.	327/156
*	I	US-7,231,009	06-2007	Kim et al.	375/354
*	J	US-7,079,575	07-2006	Ho et al.	375/232
*	K	US-6,154,509	11-2000	Bishop, Wendell	375/371
*	L	US-6,292,016	09-2001	Jefferson et al.	326/39
*	M	US-6,927,604	08-2005	Boerstler et al.	326/93

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,042,263	05-2006	Johnson et al.	327/199
*	B	US-7,305,646	12-2007	McGrath et al.	326/38
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
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	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

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	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
327	99,147,407-408	8/10/2011	JC
375	371,376	8/10/2011	JC
713	400-401,500-503,600-601	8/10/2011	JC
326	21-22,29	8/10/2011	JC

SEARCH NOTES		
Search Notes	Date	Examiner
See attached search	8/10/2011	JC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
All	of Above	8/10/2011	JC

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BIB DATA SHEET

CONFIRMATION NO. 8034

SERIAL NUMBER 13/038,028	FILING or 371(c) DATE 03/01/2011 RULE	CLASS 375	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. CD05110C2		
APPLICANTS Gabriel Li, San Francisco, CA; ** CONTINUING DATA ***** This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145 JC which is a CON of 11/468,195 08/29/2006 PAT 7,609,799 JC which claims benefit of 60/713,682 09/02/2005 JC ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/17/2011						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON CRAWFORD/</u> Examiner's Signature		☐ Met after Allowance JC Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS CYPRESS SEMICONDUCTOR CORPORATION 198 CHAMPION COURT SAN JOSE, CA 95134-1709 UNITED STATES						
TITLE CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L32	22	L31 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L31	72	(326/63,68,80-81.ccls.) and ((power supply voltage) adj2 domain) and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L30	52	L28 not L29	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L29	109	L28 and logic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L28	161	L27 not print\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L27	236	L26 not silverbrook.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59
L26	308	L25 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:59

IPB2825-04171, Vinfineon Technologies Americas Corp

L17	52	L15 not L16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52
JC						
L16	109	L15 and logic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52
L15	161	L14 not print\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52
L14	236	L13 not silverbrook.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52
L13	308	L12 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52
L12	565	(pll (phase adj lock\$3 adj loop\$3)) and ((power supply voltage) adj (domain island))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/08/10 09:52

EAST Search History (I nterference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L37	1	36 and @ad< "20050902"	US-PGPUB; USPAT; UPAD	OR	ON	2011/08/10 10:01
L36	5	35 and ((NAND and NOR) adj (logic gate function block))	US-PGPUB; USPAT; UPAD	OR	ON	2011/08/10 10:01
L35	92	34 not 33	US-PGPUB; USPAT; UPAD	OR	ON	2011/08/10 10:01

L34	100	(((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2011/08/10 10:00
L33	8	(((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	US-PGPUB; USPAT; UPAD	OR	ON	2011/08/10 10:00

8/ 10/ 2011 10:42:59 AM**H:\ EAST\ Workspaces\ 13038028.w sp**

<i>Index of Claims</i> 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner JASON M CRAWFORD	Art Unit 2819

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA		☒ T.D.		☐ R.1.47	
CLAIM		DATE														
Final	Original	04/27/2011	10/06/2011													
	1	✓	=													
	2	✓	=													
	3	✓	=													
	4	✓	=													
	5	✓	=													
	6	✓	=													
	7	✓	-													
	8	✓	=													
	9	✓	=													
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	15	✓	✓													
	16	✓	✓													
	17	✓	✓													
	18	✓	✓													
	19	✓	✓													
	20	✓	✓													

Application Number 	Application/Control No. 13/038,028	Applicant(s)/Patent under Reexamination LI, GABRIEL	

Document Code - DISQ	Internal Document – DO NOT MAIL
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TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : July 28, 2011	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

Henry D. Jefferson

Incorrect TD form 7899145 and 7609799 are not pending applications.

[x] The person who signed the terminal disclaimer:

[] failed to state his/her capacity to sign for the business/organization entity. (See FP 14.28.)

[] is not recognized as an officer of the assignee. (See FP 14.29.)

[x] does not have power of attorney, and thus, is not of record. (See FP 14.29.01.)

(Note: Power of Attorney (PoA) can be given to a customer number, wherein all practitioners listed under the customer number have PoA. If PoA is established by a list of practitioners, the list must not comprise more than 10 practitioners. A representative of the assignee, who is not the attorney of record, cannot sign the TD unless it is established that the representative is a party authorized to act on behalf of the assignee.)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Patent Application of:

Gabriel LI

Application No.: 13/038,028

Filed: 3/01/2011

Art unit: 2819

Examiner: Crawford, Jason

For: CIRCUIT, SYSTEM AND METHOD
FOR MULTIPLEXING SIGNALS WITH
REDUCED JITTER

Confirmation No.: 8034

CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is
being submitted electronically via EFS Web
on the date shown below.

/Kevin O. Grange/ July 28, 2011

Name

Date

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE TO OFFICE ACTION

Examiner:

In response to the Office Action mailed on May 2, 2011, Applicant respectfully requests that the Examiner enter the following amendments and consider the following remarks.

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks begin on page 5 of this paper.

IN THE CLAIMS

The claims are amended as follows:

1. (Currently amended) An apparatus, comprising:
a plurality of power supply domains; and
a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains, wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains.
2. (Original) The apparatus of claim 1, wherein the plurality of power supply domains comprises at least three power supply domains and wherein the plurality of logic components comprise at least three logic components.
3. (Currently amended) The apparatus of claim [[2]] 1, wherein the plurality of power supply domains comprises first, second, third and fourth power supply domains, wherein a plurality of logic components comprises:
a first logic gate arranged within the first power supply domain and configured to operate with a first clock signal;
a second logic gate arranged within the second power supply domain and configured to operate with a second clock signal;
a logic block arranged within the third power supply domain and coupled to the first and second logic gates; and
a third logic gate arranged within the fourth power supply domain and coupled to the first and second logic gates.
4. (Original) The apparatus of claim 3, wherein the first, second and third logic gates each comprise either a two-input NAND gate or a two-input NOR gate.

5. (Original) The apparatus of claim 3, wherein the first logic gate has a first input coupled to receive the first signal and second input coupled to receive a control signal from the logic block,

wherein the second logic gate has a first input coupled to receive the second signal and a second input coupled to receive the control signal from the logic block,

wherein the logic block is configured to supply the control signal to the first and second logic gates to deactivate one of the first and second signal, and

wherein the third logic gate has inputs coupled to receive outputs of the first and second logic gates and transmit either the first signal or the second signal, which has not been deactivated by the logic block.

6. (Original) The apparatus of claim 1, wherein each of the plurality of power supply domains is supplied with its own power bus and physically separated from logic components arranged in other power supply domains.

7. (Canceled)

8. (Original) A multiplexer comprising the apparatus of claim 1.

9. (Original) A clock generation device comprising the apparatus of claim 1.

10. (Original) A motherboard comprising the clock generation device of claim 6.

11. (Original) A phone comprising the apparatus of claim 1.

12. (Original) A system, comprising:

a circuit comprising three logic gates and a logic block, each arranged within a separate power supply domain, wherein:

a first of the three logic gates is operatively coupled with a first signal;

a second of the three logic gates is operatively coupled with a second signal; and

a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and
a system component coupled to the third logic gate.

13. (Original) The system of claim 12, wherein the first, second and third logic gates each comprise either a NAND gate or a NOR gate.
14. (Original) The system of claim 12, wherein the first and second signals comprise clock signals.
15. (Original) The system of claim 12, further comprising one or more phase shift apparatuses coupled to the circuit.
16. (Original) The system of claim 15, wherein the one or more phase shift apparatuses each comprise either a phase locked loop (PLL) device or a delay locked loop (DLL) device.
17. (Original) The clock network comprising the system of claim 15.
18. (Original) A method, comprising:
 - deactivating one of a first signal or a second signal by supplying a control signal to first and second logic gates; and
 - forwarding an active one of the first or second signals to a third logic gate, wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain.
19. (Original) The method of claim 18, wherein the first and second signals comprise clock signals.
20. (Original) The method of claim 19, wherein the first and second signals comprise data signals.

REMARKS

Applicants respectfully request consideration of the subject application as amended herein. This Amendment is submitted in response to the Office Action mailed April 26, 2011. Claims 1-20 stand rejected. In this Amendment, claims 1-6 and 9-16 have been amended. No claims have been added or canceled. No new matter has been added.

OBJECTIONS

The drawings are objected to under 37 CFR 1.83(a) for failing to show every feature of the invention specified in the claims. Applicant respectfully submits that claim 7 has been canceled, and thus, the objection is moot. Applicant respectfully requests that the objection to the drawings be withdrawn.

DOUBLE PATENTING REJECTION

Claims 1-11 and 12-20 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of U.S. Patent No. 7,899,145 and 7,609,799, respectively. Applicant respectfully submits herewith terminal disclaimers in compliance with 37 C.F.R. 1.321(c). Accordingly, Applicant respectfully requests that the rejection of claims 1-11 and 12-20 on the grounds of double patenting be withdrawn.

35 U.S.C. §102(a)

Claims 1, 2, and 6-7 stand rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by U.S. Patent Publication No. 2004/0268278 to Hoberman et al. (hereinafter “Hoberman”).

Applicant respectfully requests withdrawal of these rejections because the cited reference fails to disclose all of the features of at least the independent claims. As noted above, claim 1, as amended, recites:

An apparatus, comprising:

- a plurality of power supply domains; and
- a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logic components is configured to operate with a

corresponding clock signal within a respective one of the plurality of power supply domains, **wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains.**

(emphasis added).

Anticipation requires that all of the claim features are disclosed by a single reference. Applicant respectfully submits that the cited reference fails to disclose at least **“wherein at least two of the plurality of logic components comprises substantially identical logic gates, and wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains,”** as recited in claim 1.

Hoberman is directed to an integrated circuit that includes multiple power islands where power consumption is independently controlled within each of the power islands. The Office Action identifies the lower power standard cell block 262 as allegedly reading on the claimed “plurality of logic components.” The lower power standard cell block 262, however, is only shown as being located within one of the power islands, not that each of the power islands includes the lower power standard cell block 262. It is unclear whether the Office Action is asserting that each power island includes the lower power standard cell block 262, or if other components in the other power domains are being interpreted to read on the claimed “plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logical components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains,” as recited in the claim.

However, in order to advance prosecution, Applicant respectfully submits that claim 1 has been amended to recite the features identified above in bold. Nothing in Hoberman discloses that two of the logic components are substantially identical. Rather, Hoberman expressly discloses that one power island includes the lower power standard cell block 262, while the other power islands include other elements, such as

lower power memory block 272 in the power island 270 of Figure 2. Hoberman describes that the power islands can be delineated by memory, a microprocessor, and separate IP blocks. Since these components are not substantially identical, these components in the separate power islands cannot read on the feature of **“wherein at least two of the plurality of logic components comprises substantially identical logic gates,”** as recited in claim 1.

Moreover, nothing in Hoberman discloses that these non-existing substantially logical gates comprise only one switching input to receive the corresponding clock signal within the respective power island. As such, Hoberman also fails to disclose **“wherein each of the substantially identical logic gates comprises only one switching input to receive the corresponding clock signal within the respective one of the plurality of power supply domains,”** as recited in claim 1.

For at least the reasons stated above, the cited reference fails to disclose all of the features of claim 1. Given that the cited references fail to disclose all of the features of the independent claim 1, Applicant respectfully submits that claim 1, and its corresponding dependent claims, are patentable over the cited references. Accordingly, Applicant respectfully requests that the rejection of claims 1, 2, and 6-7 under 35 U.S.C. §102(a) be withdrawn. Also, as evidenced by the lack of art rejections, claims 3, 4, and 5 appear to be allowable, since terminal disclaimers have been filed to remove the double patenting rejection. Applicant respectfully submits that claims 1-7 are in condition for allowance and such action is earnestly solicited.

35 U.S.C. §103(a)

Claims 8-11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Hoberman in view of Ex Parte Masham (2 USPQ F.2d 16467 (1987)). Claims 8-11 incorporate the apparatus of claim 1. As described above, Hoberman fails to teach all the features of claim 1, and thus, cannot be used in view of Ex Parte Masham to render the claims obvious in view of Ex Parte Masham. Accordingly, Applicant respectfully requests that the rejection of claims 8-11 under 35 U.S.C. §103(a) be withdrawn. Also, as evidenced by the lack of art rejections, claims 12-20

appear to be allowable, since terminal disclaimers have been filed to remove the double patenting rejection. Applicant respectfully submits that claims 8-20 are in condition for allowance and such action is earnestly solicited.

RESERVATION OF RIGHTS

Applicant believes every assertion by the Office Action has been addressed, however in the interest of clarity and brevity, Applicant may not have asserted every available argument for each assertion made in the Office Action. Applicant reserves all rights not exercised in connection with this response, such as the right to challenge or rebut any tacit or explicit characterization of any reference or of any of the present claims, the right to challenge or rebut any asserted factual or legal basis of any of the rejections, the right to swear behind any cited reference such as provided under 37 C.F.R. §1.131 or otherwise, or the right to assert co-ownership of any cited reference. Applicant does not admit that any of the cited references or any other references of record is relevant to the present claims, or that they constitute prior art. To the extent that any rejection or assertion is based upon the Examiner's personal knowledge, rather than any objective evidence of record as manifested by a cited prior art reference, Applicant timely objects to such reliance on Official Notice, and reserves all rights to request that the Examiner provide a reference or affidavit in support of such assertion, as required by MPEP §2144.03. Applicant reserves all rights to pursue any canceled claims in a subsequent patent application claiming the benefit of priority of the present patent application, and to request rejoinder of any withdrawn claim, as required by MPEP §821.04.

CONCLUSION

It is respectfully submitted that in view of the amendments and remarks set forth herein, the rejections have been overcome. If the Examiner believes a telephone interview would expedite the prosecution of this application, the Examiner is invited to contact Larry Johnson, by telephone at (408) 545-7194.

Please charge any additional fees under 37 CFR §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present application, or apply any credits to our PTO deposit account number: 501358.

Respectfully submitted,
LOWENSTEIN SANDLER LLP

Date: July 28, 2011

/Kevin O. Grange/
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590 Forest Avenue
Palo Alto, CA 94301
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**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Attorney Docket Number
01682.863 (L0861C2)

In re Application of: Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

For: CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

The owner*, Cypress Semiconductor Corporation, of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of any patent granted on pending **reference** U.S. Patent Number 7,609,799, issued on October 27, 2009, as such term is defined in 35 U.S.C. 154 and 173, and as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and any patent granted on the **reference** application are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of any patent granted on the instant application that would extend to the expiration date of the full statutory term as defined in 35 U.S.C. 154 and 173 of any patent granted on said **reference** application, "as the term of any patent granted on said **reference** application may be shortened by any terminal disclaimer filed prior to the grant of any patent on the pending **reference** application," in the event that: any such patent: granted on the pending **reference** application: expires for failure to pay a maintenance fee, is held unenforceable, is found invalid by a court of competent jurisdiction, is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321, has all claims canceled by a reexamination certificate, is reissued, or is in any manner terminated prior to the expiration of its full statutory term as shortened by any terminal disclaimer filed prior to its grant.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent **of record**. Reg. No. 60,793

/Kevin O. Grange/ July 28, 2011

Signature

Date

Kevin O. Grange
Typed or printed name

(650) 433-5800
Telephone Number

- ☒ **Terminal disclaimer fee under 37 CFR 1.20(d) is included.**

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**TERMINAL DISCLAIMER TO OBVIATE A PROVISIONAL DOUBLE PATENTING
REJECTION OVER A PENDING "REFERENCE" APPLICATION**

Attorney Docket Number
01682.863 (L0861C2)

In re Application of: Gabriel Li

Application No.: 13/038,028

Filed: March 1, 2011

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Check either box 1 or 2 below, if appropriate.

1. ☐ For submissions on behalf of a business/organization (e.g., corporation, partnership, university, government agency, etc.), the undersigned is empowered to act on behalf of the business/organization.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

2. ☒ The undersigned is an attorney or agent **of record**. Reg. No. 60,793

/Kevin O. Grange/ July 28, 2011

Signature

Date

Kevin O. Grange
Typed or printed name

(650) 433-5800
Telephone Number

- ☒ **Terminal disclaimer fee under 37 CFR 1.20(d) is included.**

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Electronic Patent Application Fee Transmittal				
Application Number:		13038028		
Filing Date:		01-Mar-2011		
Title of Invention:		CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Kevin Grange		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Statutory or terminal disclaimer	1814	2	140	280
Total in USD (\$)				280

Electronic Acknowledgement Receipt	
EFS ID:	10614267
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Kevin Grange
Filer Authorized By:	
Attorney Docket Number:	CD05110C2
Receipt Date:	28-JUL-2011
Filing Date:	01-MAR-2011
Time Stamp:	00:41:25
Application Type:	Utility under 35 USC 111(a)

Payment information:	
Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$280
RAM confirmation Number	8597
Deposit Account	501358
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		CD05110C2_response.pdf	55132	yes	9
			189f019135ed513be26e8203721fe61232367023		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Amendment/Req. Reconsideration-After Non-Final Reject		1	1	
	Claims		2	4	
	Applicant Arguments/Remarks Made in an Amendment		5	9	
Warnings:					
Information:					
2	Terminal Disclaimer Filed	CD05110C2_TD_1.pdf	21940	no	1
			ace7b9214b66ac9adbc2523bb071ff4c6ab90a7b		
Warnings:					
Information:					
3	Terminal Disclaimer Filed	CD05110C2_TD_2.pdf	21942	no	1
			39024909eb9d7c4f0a889b6c06bba6f47c18b09c		
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30338	no	2
			ffd44a7d8d06c8f5fc82b712b6c3e44b151e3b6d		
Warnings:					
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Total Files Size (in bytes):			129352		

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If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

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If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/038,028		Filing Date 03/01/2011		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
			TOTAL			TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	07/28/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 19	Minus	** 20	=	0		X \$52=	0	
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	=	0		X \$220=	0	
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE	0	
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)		
	Total (37 CFR 1.16(i))	*	Minus	**	=		X \$	=		
	Independent (37 CFR 1.16(h))	*	Minus	***	=		X \$	=		
☐ Application Size Fee (37 CFR 1.16(s))										
☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))										
					TOTAL ADD'L FEE			TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/038,028	03/01/2011	Gabriel Li	CD05110C2

CONFIRMATION NO. 8034

PUBLICATION NOTICE



OC000000048887230

60909
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

Title:CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

Publication No.US-2011-0176647-A1

Publication Date:07/21/2011

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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13/038,028

03/01/2011

Gabriel Li

CD05110C2

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05/02/2011

CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

EXAMINER

CRAWFORD, JASON

ART UNIT

PAPER NUMBER

2819

MAIL DATE

DELIVERY MODE

05/02/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	13/038,028	LI, GABRIEL	
	Examiner	Art Unit	
	Jason M. Crawford	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2011 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413) |
| 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08) | 5) ☐ Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the supply guard rings must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 2819

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

1. Claims 1-11 and 12-20 rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 10 of U.S. Patent No. 7,899,145 and 7,609,799 respectively. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

In regards to claim 1, the pending application and claim 1 of conflicting patent '145 both claim:

*An apparatus, comprising:
a plurality of power supply domains; and
a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains.*

Claims 2-11 are also rejected as being dependent on claim 1.

In regards to claim 12, the pending application and claim 10 of conflicting patent '799 both claim:

*A system, comprising:
a circuit comprising three logic gates and a logic block, each arranged within a separate power supply domain, wherein:
a first of the three logic gates is operatively coupled with a first signal;
a second of the three logic gates is operatively coupled with a second signal; and
a third of the three logic gates operatively coupled with one of the first and second signals, depending on a state of a control signal; and
a system component coupled to the third logic gate.*

Claims 13-17 are also rejected as being dependent on claim 12.

In regards to claim 18, the pending application and claim 17 of conflicting patent '799 both claim:

*A method, comprising:
deactivating one of a first signal or a second signal by supplying a control signal to first and second logic gates; and
forwarding an active one of the first or second signals to a third logic gate, wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain.*

Claims 19 and 20 are also rejected as being dependent on claim 18.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2 and 6-7 are rejected under 35 U.S.C. 102(a) as being anticipated by Hoberman et al. (US 2004/0268278).

In regards to claim 1, Hoberman discloses of an apparatus, comprising: a plurality of power supply domains (Power Islands 112, 114, 116 and 118); and a plurality of logic components (262 see Fig 2, logic block located within one of the Power Islands), each of the plurality of logic components within a different one of the plurality of power supply domains (Power Islands), wherein each of the plurality of logic components is configured to operate with a corresponding clock

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signal (Paragraph 0032) within a respective one of the plurality of power supply domains (Power Islands). (Figs 1-2, Paragraph 0030-0048)

In regards to claim 2, Hoberman discloses of the apparatus of claim 1, wherein the plurality of power supply domains comprises at least three power supply domains (for example Power Islands 112, 114 and 116) and wherein the plurality of logic components comprise at least three logic components (262 see Fig 2, logic block located within one of the Power Islands). (Figs 1-2, Paragraph 0030-0048)

In regards to claim 6, Hoberman discloses of the apparatus of claim 1, wherein each of the plurality of power supply domains is supplied with its own power bus (126 split among the Power Islands 112, 114, 116 and 118) and physically separated (see separation in Fig 1) from logic components arranged in other power supply domains (see Fig 1). (Figs 1-2, Paragraph 0030-0048)

In regards to claim 7, Hoberman discloses of the apparatus of claim 6, wherein each of the plurality of logic components are located in different supply islands (112, 114, 116 and 118) comprising supply guard rings (see borders around the islands 112, 114, 116 and 118 in Fig 1, also see Fig 2 islands 260 and 270 with the islands and supply managers surround the logic block). (Figs 1-2, Paragraph 0030-0048)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2819

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoberman et al. (US 2004/0268278) in view of Ex Parte Masham (2 USPQ F.2d 16467 (1987)).

In regards to claims 8-11, Hoberman discloses of the apparatus as found within the explanation of claim 1 above, however, Hoberman does not disclose of a multiplexer, clock generation device, motherboard and a phone comprising the apparatus of claim 1.

It has been held that a recitation within respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claims apparatus from a prior art apparatus satisfying the claimed structural limitations. (Ex Parte Masham)

Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art employ the apparatus of Hoberman in a multiplexer, clock generation device or phone as taught by Ex Parte Masham to achieve the desired device design and desired use of the device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Crawford whose telephone number

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is (571)272-6004. The examiner can normally be reached on Mon-Fri 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shawki Ismail can be reached on (571) 272-3985. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M. Crawford/
Examiner, Art Unit 2819

Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 1 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,609,799	10-2009	Li, Gabriel	375/376
*	B	US-7,899,145	03-2011	Li, Gabriel	375/376
*	C	US-2004/0268278	12-2004	Hoberman et al.	716/005
*	D	US-5,991,135	11-1999	Saleh, Farid	361/56
*	E	US-7,030,661	04-2006	Doyle, James Thomas	327/102
*	F	US-2006/0165205	07-2006	Dally, William J.	375/371
*	G	US-2002/0089362	07-2002	Lutkemeyer, Christian A.J.	327/161
*	H	US-7,365,580	04-2008	Martin et al.	327/156
*	I	US-7,231,009	06-2007	Kim et al.	375/354
*	J	US-7,079,575	07-2006	Ho et al.	375/232
*	K	US-6,154,509	11-2000	Bishop, Wendell	375/371
*	L	US-6,292,016	09-2001	Jefferson et al.	326/39
*	M	US-6,927,604	08-2005	Boerstler et al.	326/93

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
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	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
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Notice of References Cited	Application/Control No. 13/038,028		Applicant(s)/Patent Under Reexamination LI, GABRIEL	
	Examiner Jason M. Crawford		Art Unit 2819	Page 2 of 2

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A	US-7,042,263	05-2006	Johnson et al.	327/199
*	B	US-7,305,646	12-2007	McGrath et al.	326/38
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
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	P					
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BIB DATA SHEET

CONFIRMATION NO. 8034

SERIAL NUMBER 13/038,028	FILING or 371(c) DATE 03/01/2011 RULE	CLASS 375	GROUP ART UNIT 2819	ATTORNEY DOCKET NO. CD05110C2		
APPLICANTS Gabriel Li, San Francisco, CA; ** CONTINUING DATA ***** This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145 JC which is a CON of 11/468,195 08/29/2006 PAT 7,609,799 JC which claims benefit of 60/713,682 09/02/2005 JC ** FOREIGN APPLICATIONS ***** ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 03/17/2011						
Foreign Priority claimed ☐ Yes ☒ No 35 USC 119(a-d) conditions met ☐ Yes ☒ No Verified and Acknowledged <u>/JASON CRAWFORD/</u> Examiner's Signature		☐ Met after Allowance JC Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 5	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 3
ADDRESS CYPRESS SEMICONDUCTOR CORPORATION 198 CHAMPION COURT SAN JOSE, CA 95134-1709 UNITED STATES						
TITLE CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER						
FILING FEE RECEIVED 1090	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit			

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L17	52	L15 not L16	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L16	107	L15 and logic	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L15	159	L14 not print\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L14	234	L13 not silverbrook.as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L13	306	L12 and @ad< "20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L12	541	(pll (phase adj lock\$3 adj loop\$3)) and ((power supply voltage) adj (domain island))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 09:00
L11 	1	L10 and clock\$3 and logic and ((power supply voltage) adj (island domain))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:59

L10	2	"20040268278".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:59
L7	173	L6 and ((NAND NOR) adj (logic gate function block))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L6	681	L5 and logic and clock\$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L5	899	L4 and (PLL DLL ((phase \$1 delay\$3) adj lock\$3 adj loop))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L4	1146	L3 and jitter	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L3	4231	L2 and (mux\$3 multiplex \$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L2	12428	L1 and @ad<"20050902"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
L1	16457	326/21-22,29.ccls. 327/99,147,407-408.ccls. 375/371,376.ccls. 713/400- 401,500-503,600-601.ccls.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2011/04/27 08:58
S194	2	("7609799" "7899145"). pn.	USPAT	OR	ON	2011/04/27 07:51

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L21	274	((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR))	USPAT; UPAD	OR	ON	2011/04/27 09:01
L20	118	((power supply voltage) adj (island domain)) and logic).clm.	USPAT; UPAD	OR	ON	2011/04/27 09:01
L19	37	((power supply voltage) adj (island domain)) and logic and clock\$3).clm.	USPAT; UPAD	OR	ON	2011/04/27 09:00
L18	3	((power supply voltage) adj (island domain)) and logic and clock\$3 and (NAND NOR)).clm.	USPAT; UPAD	OR	ON	2011/04/27 09:00

4/ 27/ 2011 9:01:47 AM

H:\ EAST\ Workspaces\ 12577477.wsp

<i>Index of Claims</i> 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant											☐ CPA											☐ T.D.											☐ R.1.47										
CLAIM		DATE																																									
Final	Original	04/27/2011																																									
	1	✓																																									
	2	✓																																									
	3	✓																																									
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Search Notes 	Application/Control No. 13038028	Applicant(s)/Patent Under Reexamination LI, GABRIEL
	Examiner Jason M Crawford	Art Unit 2819

SEARCHED			
Class	Subclass	Date	Examiner
327	99,147,407-408	4/27/2011	JC
375	371,376	4/27/2011	JC
713	400-401,500-503,600-601	4/27/2011	JC
326	21-22,29	4/27/2011	JC

SEARCH NOTES		
Search Notes	Date	Examiner
See attached search	4/27/2011	JC

INTERFERENCE SEARCH			
Class	Subclass	Date	Examiner
All	of Above	4/27/2011	JC

/ Jason M Crawford/ Examiner. Art Unit 2819	
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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
13/038,028	03/01/2011	Gabriel Li	CD05110C2

60909
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

CONFIRMATION NO. 8034
NONPUBLICATION RESCISSION
LETTER



OC000000047167759

Date Mailed: 04/15/2011

Communication Regarding Rescission Of Nonpublication Request and/or Notice of Foreign Filing

Applicant's rescission of the previously-filed nonpublication request and/or notice of foreign filing is acknowledged. The paper has been reflected in the Patent and Trademark Office's (USPTO's) computer records so that the earliest possible projected publication date can be assigned.

The projected publication date is 07/21/2011.

If applicant rescinded the nonpublication request before or on the date of "foreign filing,"¹ then no notice of foreign filing is required.

If applicant foreign filed the application after filing the above application and before filing the rescission, and the rescission did not also include a notice of foreign filing, then a notice of foreign filing (not merely a rescission) is required to be filed within 45 days of the date of foreign filing. See 35 U.S.C. § 122(b)(2)(B)(iii), and Clarification of the United States Patent and Trademark Office's Interpretation of the Provisions of 35 U.S.C. § 122(b)(2)(B)(ii)-(iv), 1272 Off. Gaz. Pat. Office 22 (July 1, 2003).

If a notice of foreign filing is required and is not filed within 45 days of the date of foreign filing, then the application becomes abandoned pursuant to 35 U.S.C. § 122(b)(2)(B)(iii). In this situation, applicant should either file a petition to revive or notify the Office that the application is abandoned. See 37 CFR 1.137(f). Any such petition to revive will be forwarded to the Office of Petitions for a decision. Note that the filing of the petition will not operate to stay any period of reply that may be running against the application.

Questions regarding petitions to revive should be directed to the Office of Petitions at (571) 272-3282.

¹ Note, for purpose of this notice, that "foreign filing" means "filing an application directed to the same invention in another country, or under a multilateral international agreement, that requires publication of applications 18 months after filing".

/llam/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

RESCISSION OF PREVIOUS NONPUBLICATION REQUEST (35 U.S.C. 122(b)(2)(B)(ii)) AND, IF APPLICABLE, NOTICE OF FOREIGN FILING (35 U.S.C. 122(b)(2)(B)(iii))	Application Number		13/038,028
	Filing Date		March 1, 2011
	First Named Inventor		Gabriel Li
	Title	Partition of a multiplexer circuit to eliminate...	
	Atty Docket Number		CD05110C2
	Art Unit		2819
	Examiner		Jason Crawford

Send completed form to:
Mail Stop PG Pub
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, VA 22313-1450
 FAX: (571) 273-8300

A request that the above-identified application not be published under 35 U.S.C. 122(b) (nonpublication request) was included with the above-identified application on filing pursuant to 35 U.S.C. 122(b)(2)(B)(i).
 I hereby **rescind** the previous nonpublication request.

If a notice of foreign or international filing is or will be required by 35 U.S.C. 122(b)(2)(B)(iii) and 37 CFR 1.213(c), I hereby provide such notice. This notice is being provided no later than forty-five (45) days after the date of such foreign or international filing.

If a notice of subsequent foreign or international filing required by 35 U.S.C. 122(b)(2)(B)(iii) and 37 CFR 1.213(c) was not filed within forty-five (45) days after the date of filing of the foreign or international application, the application is ABANDONED, and a petition to revive under 37 CFR 1.137(b) is required. See 37 CFR 1.137(f).

/Larry Johnson/	04/13/2011
Signature	Date
Larry Johnson	56861
Typed or printed name	Registration Number, if applicable
408-545-7194	
Telephone Number	

This request must be signed in compliance with 37 CFR 1.33(b).

If information or assistance is needed in completing this form, please contact the Pre-Grant Publication Division at (703)605-4283 or by e-mail at PGPub@USPTO.gov.

CERTIFICATE OF MAILING OR TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop PG Pub, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or facsimile transmitted to the U.S. Patent and Trademark Office on the date shown below.

Signature

Name (Print/Type)

Date

This collection of information is required by 37 CFR 1.213(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Mail Stop PG Pub, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt	
EFS ID:	9874451
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Penny Jackson
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	13-APR-2011
Filing Date:	01-MAR-2011
Time Stamp:	17:32:29
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Rescind Nonpublication Request for Pre Grant Pub	CD05110C2RescissionofNonPublicationRequest04132011.pdf	259780 4173326b7fb2e98862e5ef5d4d52111cf7cc6890	no	2
Warnings:					
Information:					

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Gabriel Li	
Serial No.: 13/038,028	Group Art Unit: 2819
Filed: March 1, 2011	Examiner: CRAWFORD, JASON
Title: CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER	Confirmation #: 8034
Attorney Docket No.: CD05110C2	Assignee: Cypress Semiconductor Corporation

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. Introductory Comments

Please enter these amendments before prosecution on the merits.

II. Amendments to the Specification.

Please replace paragraph RELATED APPLICATIONS with the following:

5

RELATED APPLICATIONS

~~This application is a continuation of Application No. 11/468,195, filed August 29, 2006, which claims the benefit of U.S. Provisional Application No. 60/713,682, filed September 2, 2005.~~ This application is a continuation of U.S. Non-Provisional Application No. 12/577,477, filed October 12, 2009, now patent No. 7,899,145, issued March 1, 2011, which is a continuation of U.S. Non-Provisional Application No. 11/468,195 filed August 29, 2006, now patent No. 7,609,799 issued October 27, 2009, and U.S. Provisional Application No. 60/713,682 filed on September 2, 2005, each of which are incorporated by reference herein.

15

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

III. Remarks

No new matter has been added in this amendment.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R.
5 §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present
application, and to credit any overpayments, to Deposit Account No. 50-3781.

Should the Patent Office have any questions regarding this submission or the application
in general, the Patent Office is urged to contact the Applicant's attorney, Larry Johnson, by
10 telephone at (408) 545-7194. All correspondence should continue to be directed to the address
given below.

Respectfully submitted,
for GABRIEL LI
15 by his representative,

/Larry Johnson/
20 Larry Johnson
Reg. No. 56,861
(408) 545-7194

Cypress Semiconductor
25 198 Champion Court
San Jose, CA 95134
Customer No. 60909

Electronic Acknowledgement Receipt	
EFS ID:	9874256
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Penny Jackson
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	13-APR-2011
Filing Date:	01-MAR-2011
Time Stamp:	17:19:45
Application Type:	Utility under 35 USC 111(a)

Payment information:					
Submitted with Payment			no		
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	CD05110C2PreliminaryAmendment04132011.pdf	21278 390a568ceb003bf07c7b7e1990660e0d10650e7a	no	3
Warnings:					
Information:					

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875					Application or Docket Number 13/038,028		Filing Date 03/01/2011		☐ To be Mailed	
APPLICATION AS FILED – PART I										
(Column 1)			(Column 2)			SMALL ENTITY ☐ OR		OTHER THAN SMALL ENTITY		
FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)	OR	RATE (\$)	FEE (\$)			
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A				
☐ SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A				
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A				
TOTAL CLAIMS (37 CFR 1.16(j))	minus 20 =	*	X \$	=		X \$	=			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$	=		X \$	=			
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).									
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))										
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL				
APPLICATION AS AMENDED – PART II										
(Column 1)			(Column 2)			SMALL ENTITY OR		OTHER THAN SMALL ENTITY		
AMENDMENT	04/13/2011	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)	OR	RATE (\$)	ADDITIONAL FEE (\$)	
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X \$	=	OR	X \$52=	0
	Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X \$	=	OR	X \$220=	0
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	0	
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$	=	OR	X \$	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$	=	OR	X \$	=
	☐ Application Size Fee (37 CFR 1.16(s))									
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))									
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE		
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.										

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE U.S. Patent and Trademark Office

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www.uspto.gov

60909 e 03/22/2011

CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

Paper No.

Application No.:	13/038,028	Date Mailed:	03/22/2011
	13038028		
First Named Inventor:	Li, Gabriel,	Examiner:	,
Attorney Docket No.:	CD05110C2	Art Unit:	2819
Confirmation No.:	8034	Filing Date:	03/01/2011

Please find attached an Office communication concerning this application or proceeding.

Commissioner for Patents

Notice of Non-Compliant Amendment (37 CFR 1.121)	Application No. 13/038,028	Applicant(s) LI, GABRIEL	
		Art Unit 2800	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

The amendment document filed on 01 March, 2011 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121 or 1.4. In order for the amendment document to be compliant, correction of the following item(s) is required.

THE FOLLOWING MARKED (X) ITEM(S) CAUSE THE AMENDMENT DOCUMENT TO BE NON-COMPLIANT:

- ☐ 1. Amendments to the specification:
- ☐ A. Amended paragraph(s) do not include markings.
 - ☐ B. New paragraph(s) should not be underlined.
 - ☐ C. Other _____.
- ☐ 2. Abstract:
- ☐ A. Not presented on a separate sheet. 37 CFR 1.72.
 - ☐ B. Other _____.
- ☐ 3. Amendments to the drawings:
- ☐ A. The drawings are not properly identified in the top margin as "Replacement Sheet," "New Sheet," or "Annotated Sheet" as required by 37 CFR 1.121(d).
 - ☐ B. The practice of submitting proposed drawing correction has been eliminated. Replacement drawings showing amended figures, without markings, in compliance with 37 CFR 1.84 are required.
 - ☐ C. Other _____.
- ☐ 4. Amendments to the claims:
- ☐ A. A complete listing of all of the claims is not present.
 - ☐ B. The listing of claims does not include the text of all pending claims (including withdrawn claims)
 - ☐ C. Each claim has not been provided with the proper status identifier, and as such, the individual status of each claim cannot be identified. Note: the status of every claim must be indicated after its claim number by using one of the following status identifiers: (Original), (Currently amended), (Canceled), (Previously presented), (New), (Not entered), (Withdrawn) and (Withdrawn-currently amended).
 - ☐ D. The claims of this amendment paper have not been presented in ascending numerical order.
 - ☐ E. Other: _____.
- ☒ 5. Other (e.g., the amendment is unsigned or not signed in accordance with 37 CFR 1.4): For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714.

TIME PERIODS FOR FILING A REPLY TO THIS NOTICE:

- Applicant is given **no new time period** if the non-compliant amendment is an after-final amendment or an amendment filed after allowance, or a drawing submission (only) If applicant wishes to resubmit the non-compliant after-final amendment with corrections, the **entire corrected amendment** must be resubmitted.
- Applicant is given **one month**, or thirty (30) days, whichever is longer, from the mail date of this notice to supply the correction, if the non-compliant amendment is one of the following: a preliminary amendment, a non-final amendment (including a submission for a request for continued examination (RCE) under 37 CFR 1.114), a supplemental amendment filed within a suspension period under 37 CFR 1.103(a) or (c), and an amendment filed in response to a Quayle action. If any of above boxes 1 to 4 are checked, the correction required is only the corrected section of the non-compliant amendment in compliance with 37 CFR 1.121.

Extensions of time are available under 37 CFR 1.136(a) only if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action.

Failure to timely respond to this notice will result in:

Abandonment of the application if the non-compliant amendment is a non-final amendment or an amendment filed in response to a *Quayle* action; or

Non-entry of the amendment if the non-compliant amendment is a preliminary amendment or supplemental amendment.

Legal Instruments Examiner (LIE), if applicable /RENEE HAWKINS/

Telephone No: (571)272-1581

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 13/038,028				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	330			
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A			N/A	540			
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	220			
TOTAL CLAIMS (37 CFR 1.16(j))	20	minus 20 = *			OR	x 52 =	0.00			
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3	minus 3 = *				x 220 =	0.00			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$270 (\$135 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL		TOTAL	1090			
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
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	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
13/038,028	03/01/2011	2819	1090	CD05110C2	20	3

CONFIRMATION NO. 8034

60909
CYPRESS SEMICONDUCTOR CORPORATION
198 CHAMPION COURT
SAN JOSE, CA 95134-1709

FILING RECEIPT



Date Mailed: 03/18/2011

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Applicant(s)

Gabriel Li, San Francisco, CA;

Assignment For Published Patent Application

Cypress Semiconductor Corporation, San Jose, CA

Power of Attorney: The patent practitioners associated with Customer Number 35617

Domestic Priority data as claimed by applicant

This application is a CON of 12/577,477 10/12/2009 PAT 7,899,145
which is a CON of 11/468,195 08/29/2006 PAT 7,609,799
which claims benefit of 60/713,682 09/02/2005

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

If Required, Foreign Filing License Granted: 03/17/2011

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 13/038,028**

Projected Publication Date: Request for Non-Publication Acknowledged

Non-Publication Request: Yes

Early Publication Request: No

Title

CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

Preliminary Class

326

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Electronic Acknowledgement Receipt

03/17/2011 UEDUVIJE 00000021 503781 13038028

01 FC:1011 330.00 DA
02 FC:1111 540.00 DA
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Title of Invention:

CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

First Named Inventor/Applicant Name:

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Customer Number:

60909

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Larry Joel Johnson/Penny Jackson

Filer Authorized By:

Larry Joel Johnson

Attorney Docket Number:

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1	Application Data Sheet	CD05110C2AppDataSheet_fill.pdf	49592 8b20afe04c2549f5e22fde12ff1efceb71db1a7f	no	4

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Information:

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Applicant(s): Gabriel Li	
Serial No.: Unknown	Group Art Unit: Unknown
Filed: Herewith	Examiner: Unknown
Title: CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER	Confirmation #: Unknown
Attorney Docket No.: CD05110C2	Assignee: Cypress Semiconductor Corporation

PRELIMINARY AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

I. Introductory Comments

Please enter these amendments before prosecution on the merits.

II. Amendments to the Specification.

Please replace paragraph RELATED APPLICATIONS with the following:

5

RELATED APPLICATIONS

~~This application is a continuation of Application No. 11/468,195, filed August 29, 2006, which claims the benefit of U.S. Provisional Application No. 60/713,682, filed September 2, 2005.~~ This application is a continuation of U.S. Non-Provisional
10 Application No. 12/577,477, filed October 12, 2009, now patent No. 7,899,145, issued March 1, 2011, which is a continuation of U.S. Non-Provisional Application No. 11/468,195 filed August 29, 2006, now patent No. 7,609,799 issued October 27, 2009, and U.S. Provisional Application No. 60/713,682 filed on September 2, 2005, each of which are incorporated by reference herein.

15

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

III. Remarks

No new matter has been added in this amendment.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R.
5 §§ 1.16, 1.17, 1.18, 1.20 and 1.21 that may be required to maintain pendency of the present
application, and to credit any overpayments, to Deposit Account No. 50-3781.

Should the Patent Office have any questions regarding this submission or the application
in general, the Patent Office is urged to contact the Applicant's attorney, Larry Johnson, by
10 telephone at (408) 545-7194. All correspondence should continue to be directed to the address
given below.

Respectfully submitted,
for GABRIEL LI
15 by his representative,

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**CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING
SIGNALS WITH REDUCED JITTER**

By:

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CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER

RELATED APPLICATIONS

5 This application is a continuation of Application No. 11/468,195, filed August 29, 2006,
which claims the benefit of U.S. Provisional Application No. 60/713,682, filed September 2,
2005.

BACKGROUND OF THE INVENTION

10 1. Field of the Invention

 This invention relates to electronic circuits and, more particularly, to circuits for
multiplexing signals from clock or data sources.

15 2. Description of the Related Art

 The following descriptions and examples are given as background only.

20 Many electronic systems include one or more synchronous components that rely on
receiving related signals at substantially the same time to maintain proper operating
characteristics of the electronic system. A computer system is one example of a synchronous
system that may include a multitude of interrelated system components, each designed to perform
a particular operation in response to a clock signal. In some cases, data transfer between system
25 components may be synchronized by one or more clock signals originating from a common
source. The system components may receive the clock signals through a clock network, which
may include clock generation and distribution circuits.

 In some cases, clock generation may be accomplished by manipulating the output of a

source, such as a crystal oscillator, to generate a plurality of clock signals in accordance with the needs of the various components within the computer system. The generated clock signals may then be fanned out to the system components via a clock distribution network. In an ideal situation, the generated clock signals may be received by each of the system components at substantially the same time. In practice, however, timing delays and uncertainties of clock signal generation and distribution may cause one or more system components to receive clock signals at slightly different instances. In some cases, even the smallest variation in the arrival of a clock signal transition relative to a data signal transition may significantly impact system performance and/or reliability. For this reason, good clock distribution is very important to the overall performance and reliability of electronic systems. Unwanted clock skew and jitter are two phenomena that may result from poor clock distribution, thus causing problems in the design and operation of the electronic systems.

As used herein, the term “skew” may be described as a variation in the arrival times of two related signals, which are specified to arrive at the same time. For example, “clock skew” may occur when an active “transition” or “edge” of the clock signal “lags” (i.e., arrives sometime after) or “leads” (i.e., arrives sometime before) the data signal transition(s) received by a system component. Clock skew may be introduced into a clock network through load mismatches, routing parasitics (i.e., interlayer dielectric thickness, interconnect thickness and channel length mismatches), and/or variations in temperature, voltage, and process (i.e., trace conductor length, width, and composition mismatches, capacitive loading, etc.).

Unfortunately, clock skew may adversely affect the timing margins of one or more components within a synchronous system. For example, it is often necessary to properly align the clock signal to the data being sampled at the input latches of a system component to achieve synchronous operation. Such alignment may ensure that the data transition occurs at the proper moment between the edges or active transitions of the clock signal. Synchronous systems, therefore, generally rely on data transitioning and remaining stable from a time, which occurs at least a “setup time” before the clock transition, until at least a “hold time” after the clock

transition. Most synchronous system components have stringent setup and hold timing requirements, which are typically specified by a manufacturer of the system component.

As operating speeds increase, the setup and hold timing margins between active transitions of the clock and data signals are reduced, thereby decreasing the window within which a data transition can be successfully latched by a clock transition. For example, edge-sensitive flip-flops may be used for sampling data signals received by a system component. In such an example, a flip-flop may successfully latch a data signal if the data signal is stable during the critical setup and hold periods on either side of the clock transition. However, if clock skew occurs, it may shift the clock transition sufficiently in time to cause a bit error when the data is sampled. As described herein, a “bit error” is a sampling error that occurs when a data signal is incorrectly sampled by a clock transition.

Jitter, on the other hand, generally results from time-varying components of noise sources, and is often defined as the cycle-to-cycle variation in the threshold crossings of a data signal. In other words, jitter may occur in data samples taken near, but not exactly at, the desired sample locations of an individual data signal, such that a sample is temporally displaced by an unknown, though usually small interval (e.g., an interval substantially less than or equal to one clock cycle). Like clock skew, jitter may cause the data signal to be shifted sufficiently in time to produce a bit error when the data signal is incorrectly sampled by the clock signal.

Techniques have been developed to minimize the effects of timing delays, such as clock skew and jitter, which degrade the performance and reliability of synchronous systems. However, most currently used techniques cannot guarantee that a data signal transition will occur at the critical moment between clock signal edges in all conditions. For example, some techniques utilize phase lock loops (PLLs) or delay-locked loops (DLLs) for adding a somewhat variable, though highly consistent amount of delay to a clock path. The added delay may be used to adjust the active edge of a clock signal before it is used for sampling a data signal. As such, a PLL or DLL device could be used to reduce clock skew by adjusting the timing of the clock

signal, so that it occurs within the data setup and hold time requirements of a system component. However, the current techniques are not without some disadvantages.

In some cases, more than one PLL or DLL device may be included within a clock network for adjusting the timing of the clock path. Multiple PLL/DLL devices enable the system to multiplex clock signals from different PLL/DLLs. For example, a multiplexer circuit may be included for selectively applying one of the PLL/DLL output signals to the clock path. However, conventional multiplexer designs add crosstalk and power supply noise to the clock path when multiplexing signals (i.e., choosing between more than one signal) from the PLL/DLLs.

The addition of crosstalk and power supply noise increases the amount of jitter on the clock path, and therefore, is very undesirable in clock networks. In some cases, the amount of jitter added to the clock path may cause a bit error when the generated clock signal is used for sampling data. Therefore, a need remains for an improved clock network that does not suffer from crosstalk or supply noise injection. Such a clock network may experience significantly less jitter than conventional networks, thereby improving the overall timing of an electronic device employing the clock network.

SUMMARY OF THE INVENTION

The following description of various embodiments of circuits, systems and methods is not to be construed in any way as limiting the subject matter of the appended claims.

5

According to one embodiment, an improved multiplexer circuit comprising a plurality of logic gates and a logic block is contemplated herein. For example, the improved multiplexer circuit may include a first logic gate coupled for receiving a first signal, a second logic gate coupled for receiving a second signal, and a third logic gate coupled to outputs of the first and
10 second logic gates for transmitting either the first signal or the second signal. For example, the logic block may be configured for deactivating one of the first and second signals by supplying a static control signal to the first and second logic gates. The logic block ensures that only one active signal (e.g., either the first signal or the second signal) is supplied to the inputs of the first, second and third logic gates. This reduces the amount of jitter within the transmitted signal by
15 eliminating crosstalk and power supply noise injection at the inputs of the logic gates.

In some cases, jitter may be further reduced by arranging the logic gates within separate power domains to further isolate the logic gate inputs. For example, the first, second and third logic gates may be separated from one another by arranging the logic gates within different power supply “islands,” each coupled to a different power bus. The common substrate provides
20 an additional amount of isolation. For example, a relatively high substrate resistance also functions to provide isolation between the power supply islands.

In some cases, the first, second and third logic gates may be implemented with NAND gates. However, the first, second and third logic gates are not limited to NAND gates, and may
25 be implemented with a substantially different combination of logic gates (e.g., NOR gates), in other embodiments of the invention. In some cases, the first and second signals may be clock signals. However, the first and second signals are not limited to clock signals, and may comprise data signals, in other embodiments of the invention.

A system comprising the improved multiplexer circuit and at least one system component is also contemplated herein. As noted above, the multiplexer circuit may include at least three logic gates and a logic block, each arranged within a separate power domain. For example, a first logic gate may be coupled for receiving a first signal, and a second logic gate may be coupled for receiving a second signal. However, a third logic gate may be coupled for receiving only one of the first and second signals, depending on a state of a control signal supplied to the first and second logic gates from the logic block. In this manner, the at least one system component may be coupled to an output of the third logic gate for receiving only one of the first and second signals.

In some cases, the multiplexer circuit may be part of a clock network, which is included within the system for adjusting the timing of a clock path. For example, the first and second signals may include clock signals supplied, e.g., from an internal system clock. In some cases, the clock network may include one or more phase shift apparatuses for supplying the first and second signals to the multiplexer circuit. For example, a phase locked loop (PLL) or delay locked loop (DLL) device may be included within the clock network for reducing clock skew by shifting a phase of the system clock signals. However, a phase shift apparatus may not be included within all embodiments of the invention.

A method for multiplexing signals with reduced jitter is also contemplated herein. For example, the method may include supplying a first signal to a first logic gate and a second signal to a second logic gate. Next, one of the first or second signals may be deactivated by supplying a control signal to the first and second logic gates. Finally, the method may include forwarding an active one of the first or second signals to a third logic gate. By supplying only one active signal to each of the logic gates, the steps of deactivating and forwarding enable the first and second signals to be multiplexed with reduced jitter.

BRIEF DESCRIPTION OF THE DRAWINGS

Other objects and advantages of the invention will become apparent upon reading the following detailed description and upon reference to the accompanying drawings in which:

5

FIG. 1 is block diagram of a circuit comprising an exemplary multiplexer circuit,

FIG. 2 is a circuit diagram of an exemplary multiplexer circuit;

10

FIG. 3 is a block diagram of a circuit comprising an improved multiplexer circuit having reduced crosstalk and power supply noise, according to one embodiment of the invention;

FIG. 4 is a block diagram of a circuit comprising an improved multiplexer circuit having reduced crosstalk and power supply noise, according to another embodiment of the invention;

15

FIG. 5 is a block diagram of a system comprising the improved multiplexer of FIGS. 3 or 4 and a plurality of system components; and

20

FIG. 6 is a flowchart diagram of a method for multiplexing signals with reduced crosstalk and power supply noise.

25

While the invention is susceptible to various modifications and alternative forms, specific embodiments thereof are shown by way of example in the drawings and will herein be described in detail. It should be understood, however, that the drawings and detailed description thereto are not intended to limit the invention to the particular form disclosed, but on the contrary, the intention is to cover all modifications, equivalents and alternatives falling within the spirit and scope of the present invention as defined by the appended claims.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

An exemplary clock network 100 is shown in FIG. 1. In the illustrated embodiment, the clock network includes a first PLL 110, a second PLL 120, a multiplexer 130, a logic block 140 and an output buffer 150. In some cases, the first and second PLLs may each be configured for generating one or more clock signals (e.g., signals A and B) for adjusting the timing of a clock path (coupled, e.g., to CLKout). In FIG. 1, the clock signals generated by the PLLs are supplied to the inputs of a multiplexer (130). The logic block supplies a control signal to the multiplexer for selecting one of the clock signals to be output from the multiplexer. In most cases, the chosen clock signal (out) is supplied to the output buffer, before it is applied to the clock path.

The clock network shown in FIG. 1 adds crosstalk and power supply noise to the clock path when multiplexing signals (i.e., choosing between more than one signal) from the PLLs. As described in more detail below, the addition of crosstalk and power supply noise increases the amount of jitter on the clock path, and thus, is very undesirable.

In some cases, crosstalk and power supply noise may be added to the clock path when two or more PLL signals are brought into close proximity at the inputs of the multiplexer. For example, a clock signal (A) from the first PLL may interfere with a clock signal (B) from the second PLL by way of capacitive coupling between the metal wire of the mux inputs and the common silicon substrate. This interference (or “crosstalk”) cannot be avoided in current multiplexer designs, due to the close proximity of the mux inputs. As described herein, circuit components arranged in “close proximity” may be located within the same “power domain” and/or coupled to the same power bus.

For example, FIG. 2 illustrates one embodiment of a multiplexer circuit (130) that may be included within the clock network (100) of FIG. 1. In the illustrated embodiment, multiplexer 130 includes a pair of two-input AND gates (200, 210), a two-input NOR gate (220) and a 1-to-2 decoder (230). Each of the AND gates is coupled for receiving a clock signal (e.g., either A or B) from the first and second PLLs (110, 120) and a select signal (e.g., either S1 or S2) from the

1-to-2 decoder (230). The AND gate outputs are coupled to the inputs of the NOR gate for generating the multiplexer output signal (out). Each of the multiplexer components is supplied with the same power bus (e.g., pwr2).

5 The multiplexer circuit shown in FIG. 2 adds crosstalk to the clock path when multiplexing clock signals A and B, due to the close proximity of the clock signals at the inputs of the multiplexer. In other words, AND gates 200 and 210 are each configured for receiving an active clock signal from the PLLs. Because the AND gates are arranged relatively close to one another, the clock signals may interfere with one another via capacitive coupling between the
10 AND gate inputs and the common substrate.

Power supply noise from the clock network components may also be shared at the inputs of the multiplexer. For example, one or more of the clock network components may be supplied with a separate power bus, as shown in FIG. 1. In the particular embodiment shown, the first
15 PLL is supplied with a first power bus (pwr1), the second PLL and the multiplexer are supplied with a second power bus (pwr2), the logic block is supplied with a third power bus (pwr3) and the output buffer is supplied with a fourth power bus (pwr4). In this manner, the first PLL, the second PLL, the logic block and the output buffer may each be implemented within a separate “power domain,” “power supply island,” or “power supply block.” It is noted that, although
20 multiplexer 130 is located with the second power supply block, it can be located within any supply block and still exhibit the following problem.

All power supplies generate some amount of noise, which propagates along the power bus as “power supply noise.” Power supply noise affects circuit components by contributing to
25 the overall noise level of the output signals generated by the components. In some cases, the noise contributions from each power domain may be combined when the output signals from multiple circuit components come in close proximity to one another (e.g., when multiplexing signals). In the embodiment of FIG. 1, the clock signals from the first and second PLLs and the control signal from the logic block contain power supply noise from power buses 1, 2 and 3. As
30 described in more detail below, the supply noises from power buses 1, 2 and 3 are combined

within the multiplexer, and pass directly to the output buffer in the fourth power domain. The fourth power domain contributes its own amount of noise, so that the final signal (CLKout) from the output buffer contains noise components from all four power domains.

5 The multiplexer circuit shown in FIG. 2 adds power supply noise to the clock path by arranging the multiplexer components within close proximity to one another and supplying active clock and control signals to the closely spaced components. This enables the noise components of one signal to interfere (or combine) with those of another signal. Since the active clock and control signals contain supply noises from power domains 1, 2 and 3, the supply noises from
10 each of these domains are combined within the multiplexer output signal (out). If the output signal is forwarded to a buffer located within another power domain (as shown in FIG. 1), the final signal (CLKout) will contain noise components from four distinct power domains.

 In some cases, the amount of crosstalk and power supply noise added to the clock path may cause a bit error when the final signal (CLKout) is used for sampling data. Therefore, a
15 need remains for an improved clock network that does not suffer from crosstalk or supply noise injection. Such a clock network would experience significantly less jitter than currently available clock networks, thereby improving the overall timing of an electronic device employing the clock network.

20 One embodiment of an improved clock network 300 is shown in FIG. 3. As described in more detail below, the illustrated embodiment provides a solution for reducing the cycle-to-cycle jitter of a multiplexed (“muxed”) clock output by eliminating crosstalk and power supply noise injection between the muxed signals.

25 As shown in FIG. 3, the improved clock network (300) may include a first phase shift apparatus (PS1) 310 and a first NAND gate in a first power supply domain (PSD 1), a second phase shift apparatus (PS2) 320 and a second NAND gate in a second power supply domain (PSD 2), a logic block 340 in a third power supply domain (PSD 3), and a third NAND gate and output buffer 350 in a fourth power supply domain (PSD 4). In some cases, the phase shift
30 apparatuses may be implemented with a phase locked loop (PLL) or delay locked loop (DLL)

device. As such, the phase shift apparatuses may be included for adding a variable, though highly consistent amount of delay (i.e., phase shift) to the clock signals (CLK_{in1} , CLK_{in2}) supplied thereto. It is noted, however, that PS1 and PS2 may not be included in all embodiments of the invention. In some cases, the clock signals (CLK_{in1} , CLK_{in2}) from a clock source (such as, e.g., a crystal oscillator or external clock source) may be supplied directly to the inputs of the first and second NAND gates.

As used herein, a component may be arranged within a separate “power domain,” if that component is supplied with its own power bus and physically separated from components arranged in other power domains. For example, NAND gates 1, 2 and 3 are each arranged within a different power domain. As shown in FIG. 3, NAND gates 1, 2 and 3 are spaced apart from one another and supplied with a different power bus (e.g., pwr1, pwr2, or pwr3). In some cases, the NAND gates may be located in different supply islands, which are separated from each other by a physical distance. In some cases, the supply islands may include supply guard rings for further isolation.

In some cases, the logic gates may be implemented with two-input NAND gates, as shown in FIG. 3. In the illustrated embodiment, the output of the first phase shift apparatus is coupled to a first input of NAND gate 1 for supplying a phase-shifted clock signal (A) thereto. The second phase shift apparatus is similarly coupled for supplying another phase-shifted clock signal (B) to a first input of NAND gate 2. The first and second NAND gates are controlled by the logic block (340) in the third power supply domain. For example, the logic block is coupled for supplying a pair of control signals (cntl 1, cntl 2) to the second inputs of NAND gates 1 and 2. As described in more detail below, the control signals may eliminate crosstalk and power supply noise injection by deactivating one of the clock signals supplied to NAND gates 1 and 2. The outputs of NAND gates 1 and 2 are coupled to the inputs of NAND gate 3 in the fourth power supply domain. In some cases, the output (out) of the third NAND gate may be coupled to a buffer circuit (350), which may also be arranged in the fourth power supply domain. However, the buffer circuit may not be included in all embodiments of the invention. In some cases, the

output of the third NAND gate may be directly coupled to an internal system clock path (*see*, FIG. 5).

As shown in FIG. 3, the functionality of the multiplexer is broken up into three NAND gates, each spaced apart from one another and arranged within a separate power domain. A logic block (340), arranged within another power domain, is coupled to the first and second NAND gates for eliminating the crosstalk and supply noise created within typical multiplexer circuits. For example, the logic block is configured for supplying static control signals (either a logic 1 or logic 0) to the first and second NAND gates. Although actively switching clock signals (A and B) are supplied to the first inputs of NAND gates 1 and 2, the outputs of the NAND gates are only allowed to switch when a logic 1 control signal is supplied to the second input of the logic gate. In order to eliminate crosstalk and supply noise, only one of the first and second NAND gates is allowed to pass the actively switching clock signal. The output of the other NAND gate is rendered static by supplying a logic 0 control signal to the second input of that logic gate. Since the static signal injects no switching noise, the inputs of the NAND gates are isolated from one another.

Therefore, the improved solution shown in FIG. 3 operates by separating the multiplexing (MUX) function into three separate logic gates and distributing them across three distinct power domains. The theory of the operation is to allow only one switching input per logic gate. The control signals supplied to the first and second logic gates are static signals with one high and the other low. Instead of supplying two actively switching clock signals to the third logic gate, the control signals are used for deactivating one of the clock signals in its own power domain. This enables the invention to eliminate all crosstalk and supply noise injection at the inputs of the logic gates.

Various advantages are provided by the improved solution shown in FIG. 3. For example, crosstalk and supply noise injection are eliminated by: (i) separating the multiplexing (MUX) function into three separate logic gates distributed across three distinct power domains, and (ii) allowing only one switching input per logic gate. In other words, cross talk and supply

noise injection are eliminated since each clock signal is gated in its own power domain. The improved solution improves the cycle-to-cycle jitter of the multiplexed clock output by reducing crosstalk and supply noise injection. In addition, the improved solution provides built in delay matching by utilizing three substantially identical logic gates (e.g., NAND gates 1, 2, and 3).

5 These features are generally desirable for customers/users.

In some cases, the improved solution shown in FIG. 3 may be used in clock or other timing generation devices. Such devices are widely used in many types of electronic devices, including motherboards in personal computers and communications equipment, and in consumer
10 devices such as cell phones, digital cameras, MP3 players, and many other home and entertainment products.

In some cases, the improved solution may include a phase shift apparatus (such as a PLL or DLL) for eliminating clock skew before the clock signals are supplied to the first and second
15 logic gates. For example, phase lock loops may be used in certain applications, such as frequency synthesizers, to reduce the lock time. For example, when frequency hopping is used in modern wireless networks (e.g., 3G cellular, WCDMA, WLAN, and Bluetooth), the time to settle is considered “dead time” where no information is transmitted, and thus time is wasted. Speeding up the lock time increases the effective data rate, and thus, the value of such networks.
20 Another example would be in wireline networks, where a reduced lock time helps to minimize the amount of data lost. That is, if a long string of zeros or ones is in the data path and the PLL loses lock, reacquiring lock sooner results in more data recovered by the CDR circuitry. Overall, phase lock loops are very important building blocks of modern electronic systems. It should be noted, however, that the improved multiplexer circuit described herein does not require the use of
25 a PLL to reap the advantages mentioned above. Although the phase shift apparatuses shown in FIG. 3 may further improve the timing of the clock path by reducing clock skew, they should be considered optional features of the invention.

In addition, the multiplexer circuit shown in FIG. 3 represents only one manner in which
30 signals may be multiplexed with reduced jitter. One skilled in the art would recognize that other

embodiments exist. For example, the clocking signals shown in FIG. 3 may be multiplexed with a substantially different combination of logic gates. In one embodiment, the NAND gates shown in FIG. 3 may be replaced with NOR gates. Other combinations of logic gates not specifically mentioned herein may also be possible. In addition to clocking signals, another multiplexer circuit is provided herein for multiplexing other system critical signals (such as data signals) with reduced cycle-to-cycle jitter. One embodiment of such a circuit is shown in FIG. 4 and described in more detail below.

According to one embodiment, multiplexer circuit 400 may include a first NAND gate in a first power supply domain (PSD 1), a second NAND gate in a second power supply domain (PSD 2), a logic block 440 in a third power supply domain (PSD 3), and a third NAND gate and (optional) output buffer 450 in a fourth power supply domain (PSD 4). As such, the multiplexer circuit (400) shown in FIG. 4 differs from the circuit (300) shown in FIG. 3 by eliminating the phase shift apparatuses and supplying a pair of data signals ($DATA_{in1}$, $DATA_{in2}$) to the first and second NAND gates. The multiplexer circuit (400) shown in FIG. 4 reduces cycle-to-cycle jitter of the multiplexed data signals by eliminating crosstalk and power supply noise injection, as described above. As noted above, the multiplexing function may be alternatively provided by NOR gates, or any other combination of logic gates arranged in separate power domains and supplied with only one actively switching input.

A system comprising the improved multiplexer circuit is also contemplated herein. In addition to other circuitry, the system may include a multiplexer circuit 500 and one or more system components 510, as shown in FIG. 5. In general, the multiplexer circuit 500 may be coupled for generating an output signal (OUT) by multiplexing one or more input signals (IN) supplied thereto. In most cases, the input signals may be clock or data signals. As such, multiplexer circuit 500 may be implemented with one of the circuits shown in FIGS. 3 and 4. As noted above, the multiplexer circuit may reduce the amount of jitter within the output signal by separating the multiplexing function into three logic gates, which are distributed across three distinct power domains. As such, multiplexer circuit 500 may be coupled to at least three different power buses (PWR). In some cases, the multiplexed output signal (OUT) may be

distributed to one or more system components 510, as shown in FIG. 5. If distributed along a clock path, the multiplexer circuit may be included within an improved clock network.

A method for multiplexing signals with reduced jitter is also contemplated herein. As shown in FIG. 6, for example, the method (600) may include supplying a first signal to a first logic gate (in step 610) and a second signal to a second logic gate (in step 620). As noted above, the first and second signals may be clock or data signals. In addition, the method may include deactivating one of the first or second signals (in step 630). For example, one of the signals may be deactivated by supplying a logic low control signal (NAND implementation) or a logic high control signal (NOR implementation) to the first and second logic gates. Next, the method may include forwarding an active one of the first or second signals to a third logic gate configured for outputting an active one of the first and second signals (in step 640).

The steps of deactivating and forwarding enable the first and second signals to be multiplexed with reduced jitter. For example, the method allows only one active signal to be supplied to each of the first, second and third logic gates. As noted above, the first and second logic gates are each configured for receiving an active clock (or data) signal and a static control signal. The third logic gate is configured for receiving only one input signal, the other input is disabled in the deactivation step. In this manner, the method described herein reduces jitter by eliminating crosstalk and power supply noise injection at the inputs of the logic gates. The logic gate inputs may be further isolated, in some embodiments, by separating the logic gates within distinct power domains. In other words, the logic gates may be physically separated and supplied with different power buses to further improve the isolation there between.

Embodiments of the present invention are well suited to performing various other steps or variations of the steps recited herein, and in a sequence other than that depicted and/or described herein. In one embodiment, the process of selecting one clock source from multiple clock sources may be carried out by processors and other electrical and electronic components. For example, a processor can select one pin to be the CPU clock or PCI Express clock.

For purposes of clarity, many of the details of the improved multiplexer circuit and the methods of designing and manufacturing the same that are widely known and are not relevant to the present invention have been omitted from the following description.

5 It should be appreciated that reference throughout this specification to “one embodiment” or “an embodiment” means that a particular feature, structure or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Therefore, it is emphasized and should be appreciated that two or more references to “an embodiment” or “one embodiment” or “an alternative embodiment” in various portions of this
10 specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures or characteristics may be combined as suitable in one or more embodiments of the invention.

 Similarly, it should be appreciated that in the foregoing description of exemplary
15 embodiments of the invention, various features of the invention are sometimes grouped together in a single embodiment, figure, or description thereof for the purpose of streamlining the disclosure and aiding in the understanding of the various inventive aspects. This method of disclosure, however, is not to be interpreted as reflecting an intention that the claimed invention requires more features than are expressly recited in each claim. Rather, as the following claims
20 reflect, inventive aspects may lie in less than all features of a single foregoing disclosed embodiment. Thus, the claims following the detailed description are hereby expressly incorporated into this detailed description, with each claim standing on its own as a separate embodiment of this invention.

CLAIMS

What is claimed is:

1. An apparatus, comprising:

5 a plurality of power supply domains; and

a plurality of logic components, each of the plurality of logic components within a different one of the plurality of power supply domains, wherein each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains.

10 2. The apparatus of claim 1, wherein the plurality of power supply domains comprises at least three power supply domains and wherein the plurality of logic components comprise at least three logic components.

15 3. The apparatus of claim 2, wherein the plurality of power supply domains comprises first, second, third and fourth power supply domains, wherein a plurality of logic components comprises:

a first logic gate arranged within the first power supply domain and configured to operate with a first clock signal;

20 a second logic gate arranged within the second power supply domain and configured to operate with a second clock signal;

a logic block arranged within the third power supply domain and coupled to the first and second logic gates; and

a third logic gate arranged within the fourth power supply domain and coupled to the first and second logic gates.

4. The apparatus of claim 3, wherein the first, second and third logic gates each comprise
5 either a two-input NAND gate or a two-input NOR gate.

5. The apparatus of claim 3, wherein the first logic gate has a first input coupled to receive the first signal and second input coupled to receive a control signal from the logic block, wherein the second logic gate has a first input coupled to receive the second signal and a second input
10 coupled to receive the control signal from the logic block,

wherein the logic block is configured to supply the control signal to the first and second logic gates to deactivate one of the first and second signal, and

wherein the third logic gate has inputs coupled to receive outputs of the first and second logic gates and transmit either the first signal or the second signal, which has not been
15 deactivated by the logic block.

6. The apparatus of claim 1, wherein each of the plurality of power supply domains is supplied with its own power bus and physically separated from logic components arranged in other power supply domains.

7. The apparatus of claim 6, wherein each of the plurality of logic components are located in different supply islands comprising supply guard rings.

8. A multiplexer comprising the apparatus of claim 1.

9. A clock generation device comprising the apparatus of claim 1.

5 10. A motherboard comprising the clock generation device of claim 6.

11. A phone comprising the apparatus of claim 1.

12. A system, comprising:

10 a circuit comprising three logic gates and a logic block, each arranged within a separate power supply domain, wherein:

a first of the three logic gates is operatively coupled with a first signal;

a second of the three logic gates is operatively coupled with a second signal; and

a third of the three logic gates operatively coupled with one of the first and second

15 signals, depending on a state of a control signal; and

a system component coupled to the third logic gate.

13. The system of claim 12, wherein the first, second and third logic gates each comprise either a NAND gate or a NOR gate.

20

14. The system of claim 12, wherein the first and second signals comprise clock signals.

15. The system of claim 12, further comprising one or more phase shift apparatuses coupled to the circuit.

16. The system of claim 15, wherein the one or more phase shift apparatuses each comprise either a phase locked loop (PLL) device or a delay locked loop (DLL) device.

17. The clock network comprising the system of claim 15.

18. A method, comprising:

deactivating one of a first signal or a second signal by supplying a control signal to first and second logic gates; and

forwarding an active one of the first or second signals to a third logic gate, wherein the first, second and third logic gates are spaced apart from one another and respectively arranged within a first, second and third power supply domain.

19. The method of claim 18, wherein the first and second signals comprise clock signals.

20. The method of claim 19, wherein the first and second signals comprise data signals.

ABSTRACT

An apparatus having a plurality of power supply domains and a plurality of logic components. Each of the plurality of logic components residing within a different one of the plurality of power supply domains. Each of the plurality of logic components is configured to operate with a corresponding clock signal within a respective one of the plurality of power supply domains.

10

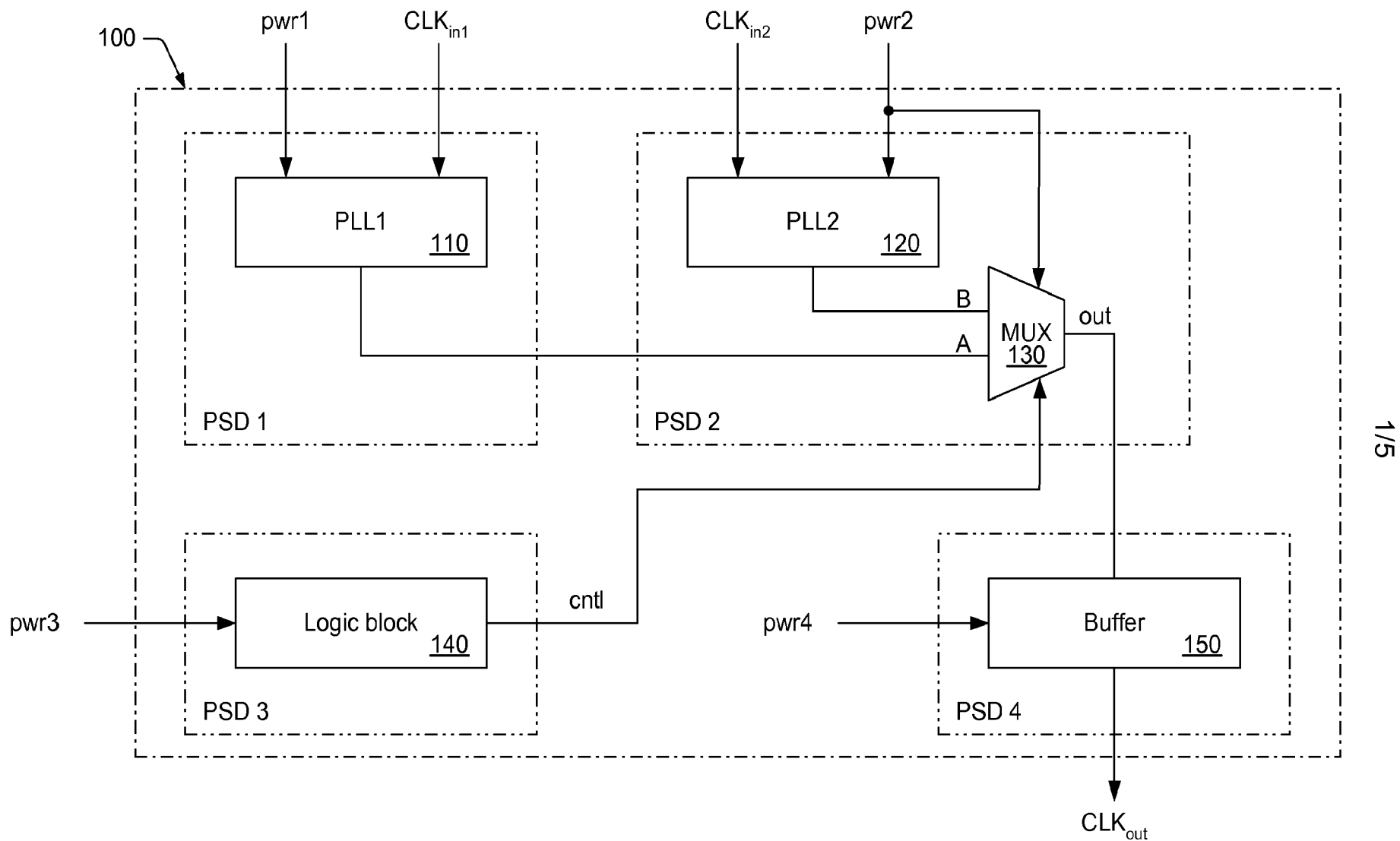
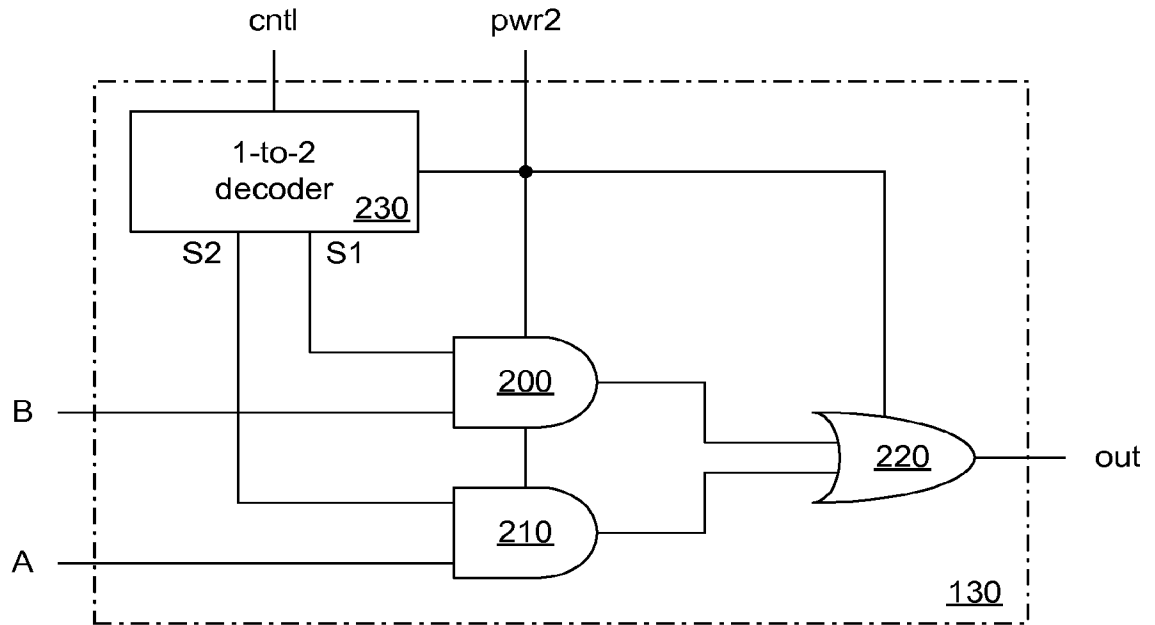


FIG. 1

**FIG. 2**

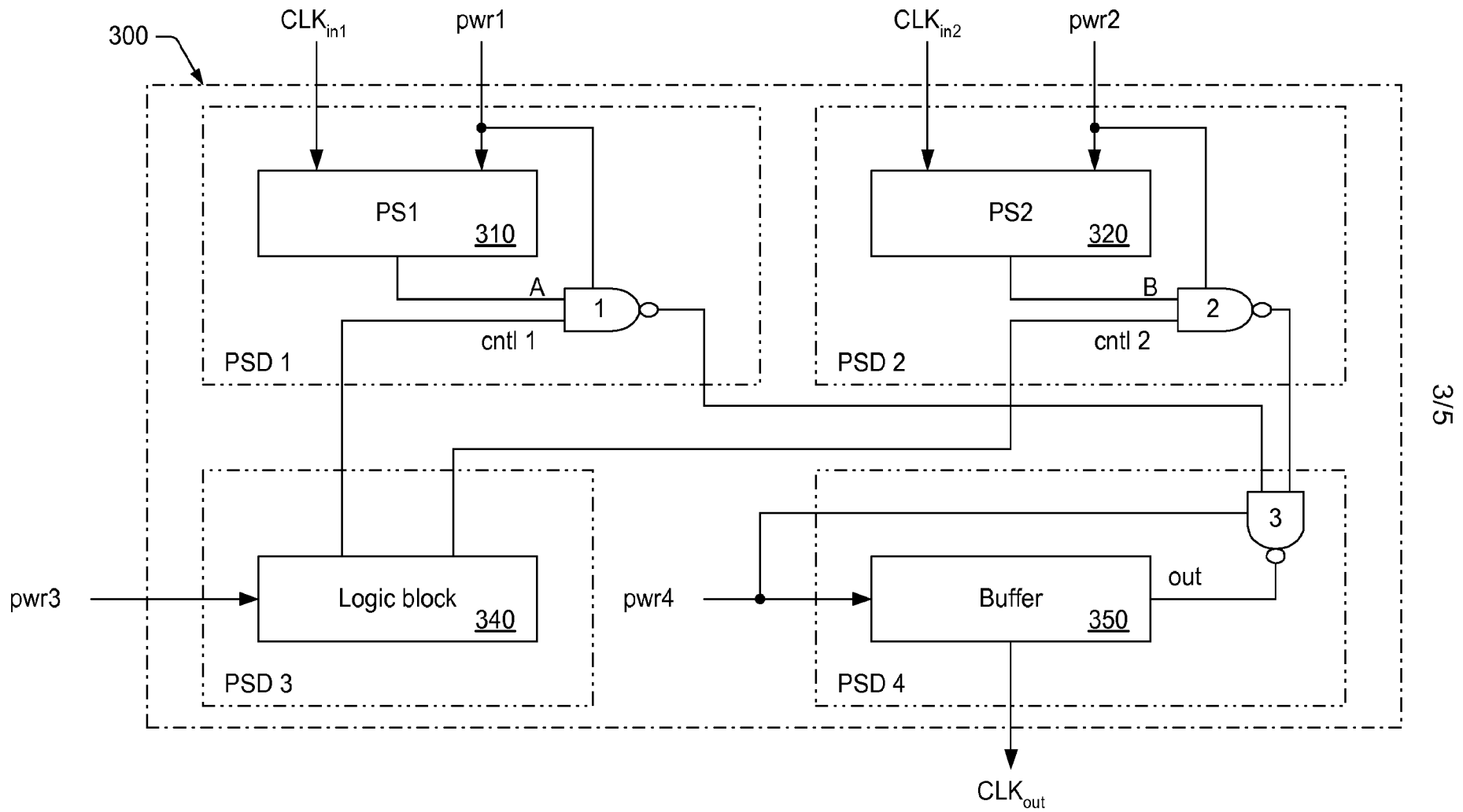


FIG. 3

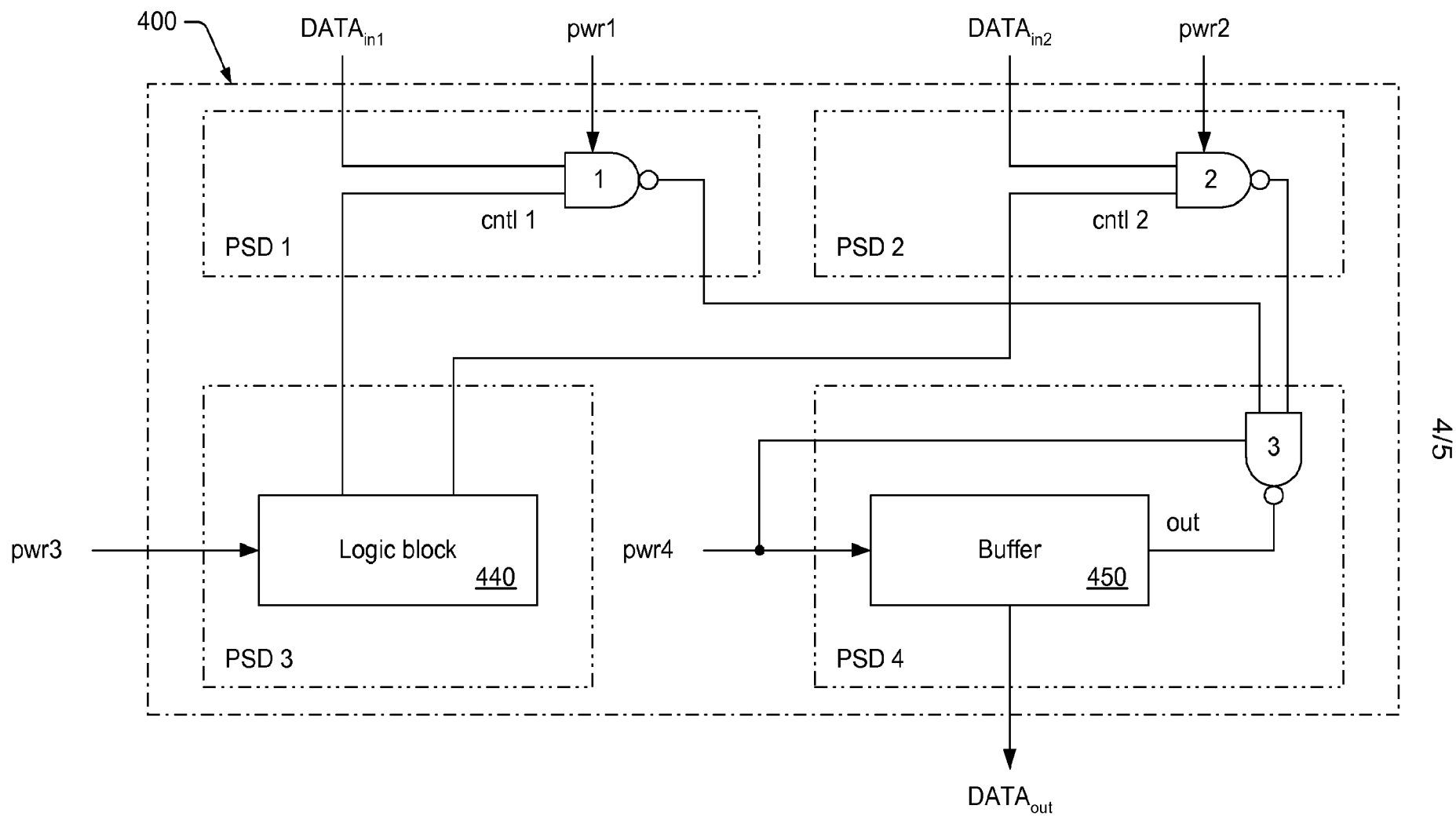
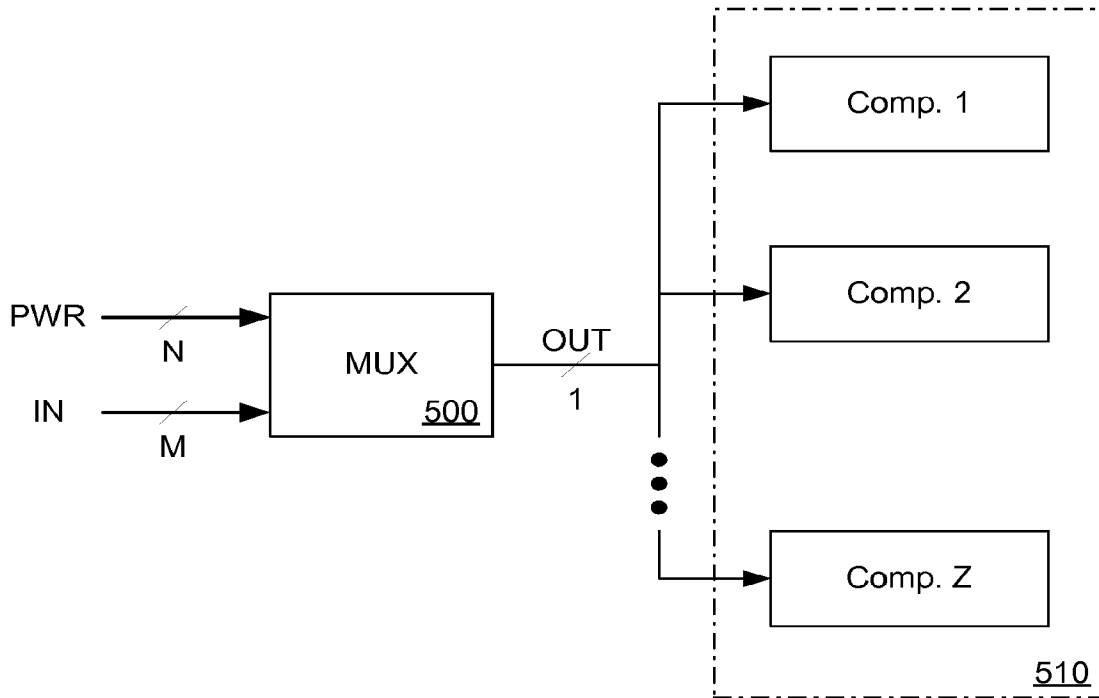
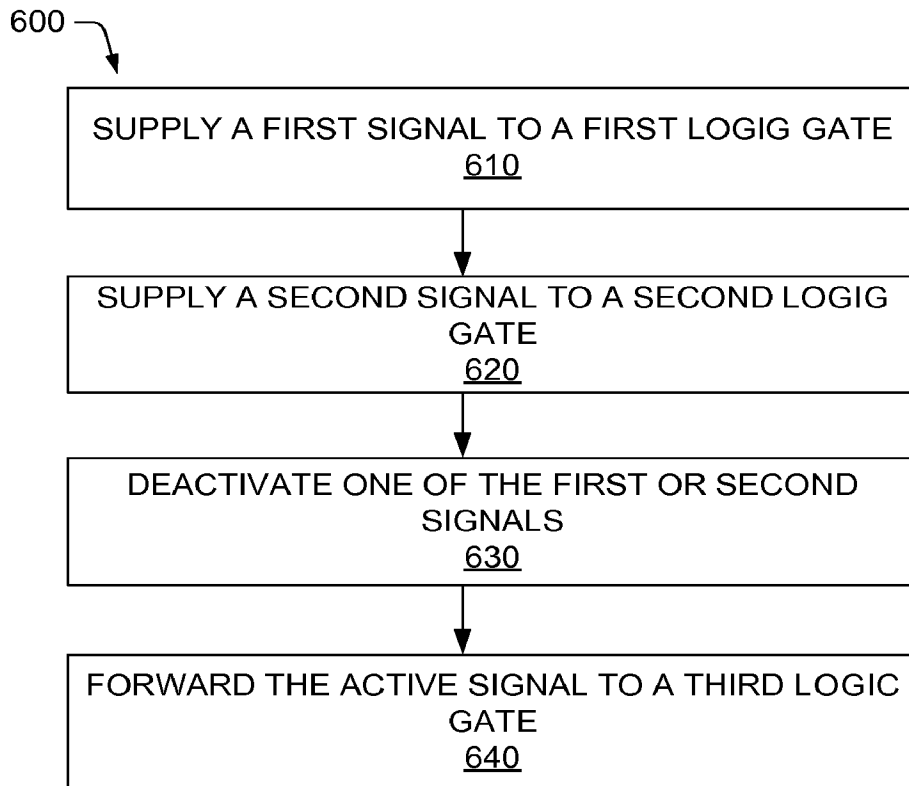


FIG. 4

**FIG. 5****FIG. 6**

DECLARATION AND POWER OF ATTORNEY
FOR UTILITY APPLICATION USING AN APPLICATION DATA SHEET

As the below named inventor(s), I/we hereby declare that:

This declaration is directed to:

- ☒ The attached application entitled **CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER**, or
☐ Application No. _____ filed on _____
☐ as amended on _____ (if applicable).

I/we believe I/we am/are the original first inventor(s) of the subject matter which is claimed and for which a patent is sought;

I/we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above;

I/we acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me/us to be material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT International filing date of the continuation-in-part application.

I hereby revoke any previous Powers of Attorney and appoint practitioners associated with Customer Number:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Inventor's Full Name:

Gabriel Li

Inventor's Signature:

Gabriel Li

Date:

8-22-06

Citizen of:

USA

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
First Named Inventor/Applicant Name:		Gabriel Li		
Filer:		Larry Joel Johnson/Penny Jackson		
Attorney Docket Number:		CD05110C2		
Filed as Large Entity				
Utility under 35 USC 111(a) Filing Fees				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility application filing	1011	1	330	330
Utility Search Fee	1111	1	540	540
Utility Examination Fee	1311	1	220	220
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				1090

Electronic Acknowledgement Receipt	
EFS ID:	9562899
Application Number:	13038028
International Application Number:	
Confirmation Number:	8034
Title of Invention:	CIRCUIT, SYSTEM, AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER
First Named Inventor/Applicant Name:	Gabriel Li
Customer Number:	60909
Filer:	Larry Joel Johnson/Penny Jackson
Filer Authorized By:	Larry Joel Johnson
Attorney Docket Number:	CD05110C2
Receipt Date:	01-MAR-2011
Filing Date:	
Time Stamp:	16:55:49
Application Type:	Utility under 35 USC 111(a)

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File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	CD05110C2AppDataSheet_fill.pdf	49592 8b20afe04c2549f5e22fde12ff1efceb71db1a7f	no	4
Warnings:					
Information:					

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2	Preliminary Amendment	CD05110C2PreliminaryAmendment03012011.pdf	22386 f3e03e7cde23d849a0170db9eb9b3f4f76144756	no	3
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3		CD05110C2SpecificationClaimsAbstract.pdf	2129532 a152cc1ba0f7f8bac38fcc114519b46462a59411	yes	22
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4	Drawings-only black and white line drawings	CD05110C2Figures.pdf	264096 242ba70f8781b1a0e08e07b51570a3488b54ddaf	no	5
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Information:					
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Information:					
Total Files Size (in bytes):			2618562		

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CD05110C2
		Application Number	
Title of Invention	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Applicant Information:

Applicant 1							
Applicant Authority		☒ Inventor		☐ Legal Representative under 35 U.S.C. 117		☐ Party of Interest under 35 U.S.C. 118	
Prefix	Given Name	Middle Name		Family Name		Suffix	
	Gabriel			Li			
Residence Information (Select One)						☒ US Residency ☐ Non US Residency ☐ Active US Military Service	
City	San Francisco		State/Province	CA	Country of Residence	US	
Citizenship under 37 CFR 1.41(b)		US					
Mailing Address of Applicant:							
Address 1		359 22nd Avenue					
Address 2							
City	San Francisco			State/Province	CA		
Postal Code		94121		Country	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. 							

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	60909		
Email Address	larz@cypress.com		 

Application Information:

Title of the Invention	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		
Attorney Docket Number	CD05110C2	Small Entity Status Claimed ☐	
Application Type	Nonprovisional		
Subject Matter	Utility		
Suggested Class (if any)		Sub Class (if any)	
Suggested Technology Center (if any)			
Total Number of Drawing Sheets (if any)	5	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CD05110C2
	Application Number	
Title of Invention	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER	

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☒	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S. C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Enter either Customer Number or complete the Representative Name section below. If both sections are completed the Customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	60909		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78(a)(2) or CFR 1.78(a)(4), and need not otherwise be made part of the specification.					
Prior Application Status	Patented				
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	12577477	2009-10-12	7899145	2011-03-01
Prior Application Status	Patented				
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	Continuation of	11468195	2006-08-29	7609799	2009-10-27
Prior Application Status	Expired				
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)		
	non provisional of	60713682	2005-09-02		
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.					

Foreign Priority Information:

This section allows for the applicant to claim benefit of foreign priority and to identify any prior foreign application for which priority is not claimed. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(a).

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	CD05110C2
		Application Number	
Title of Invention	CIRCUIT, SYSTEM AND METHOD FOR MULTIPLEXING SIGNALS WITH REDUCED JITTER		

Application Number		Country ^j	Parent Filing Date (YYYY-MM-DD)	Priority Claimed
				☐ Yes ☒ No
Additional Foreign Priority Data may be generated within this form by selecting the Add button.				

Assignee Information:

Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office.			
Assignee 1			
If the Assignee is an Organization check here. ☒			
Organization Name	Cypress Semiconductor Corporation		
Mailing Address Information:			
Address 1	198 Champion Court		
Address 2			
City	San Jose	State/Province	CA
Country ^j	US	Postal Code	95134
Phone Number	408-545-7194	Fax Number	408-545-6911
Email Address	larz@cypress.com		
Additional Assignee Data may be generated within this form by selecting the Add button.			

Signature:

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature.					
Signature	/Larry Johnson/			Date (YYYY-MM-DD)	2011-03-01
First Name	Larry	Last Name	Johnson	Registration Number	56861

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