FORM PTO-1619A Expires 06/30/99 OMB 0651-0027		U.S. Department of Commerce Patent and Trademark Office PATENT
8-22-21	101828580	≥ SHEET
TO: The Commissioner of Patents and Submission Type	Trademarks: Please record the attac Conveyance Type	hed original document(s) or copy(in the second s
	Assignment	Security Agreement
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Correction of PTO Error	Merger	Other
Corrective Document Reel # Frame # Fra		U.S. Government NLY by U.S. Government Agencies)
		tmental File Secret File
Conveying Party(ies)	Mark if additional na	mes of conveying parties attached Execution Date Month Day Year
Name (line 1) Haoran Zhang		8-20-2001
Name (line 2) Second Party Name (line 1) Gregory S. Waterfall		Month Day Year
Name (line 2)		
Receiving Party	Mark	if additional names of receiving parties attached
Name (line 1) Texas Instruments Incorpo	prated	If document to be recorded is an assignment and the receiving party is not
Name (line 2)		domiciled in the United States, an appointment of a domestic representative is attached.
Address (line 1) 13500 North Cental Expre	ssway	(Designation must be a separate document from Assignment.)
Address (line 2)		
Address (line 3) Dallas	Texas/U.S.	75265 Zip Code
City		the first Receiving Party only.
Domestic Representative Nam		
Name		
Address (line 1)		
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D.C. 20231 and to the Office of information and Regul	is estimated to average approximately 30 minutes per Send comments regarding this burden estimate to the atory Affairs, Office of Management and Budget, Pape at and Trademark Assignment Practice. DO NOT SEND nts to be recorded with required cov Patents and Trademarks, Box Assign	Cover Sheet to be recorded, including time for reviewing the document and U.S. Patent and Trademark Office, Chief Information Officer, Washington, Inwork Reduction Project (0651-0027), Washington, D.C. 20503. See OMB REQUESTS TO RECORD er sheet(s) infor Imments, WashiPATENT REEL: 012109 FRAME: 0466

FORM PTO-1619B Expires 06/30/99 OMB 0651-0027	Page 2	U.S. Department of Commerce Patent and Trademark Office PATENT
Correspondent Name and Address	Area Code and Telephone Number	972-917-5633
Name W. Daniel Swayze III		
Address (line 1) Texas Instruments Incorporated		
Address (line 2) 7839 Churchill Way, MS 3999		
Address (line 3) P.O. Box 655474		
Address (line 4) Dallas, Texas 75265		
Pages Enter the total number of pa including any attachments.	ges of the attached conveyance docum	ent1
Application Number(s) or Patent Nur	mber(s) Mark if a	dditional numbers attached
Enter either the Patent Application Number or the P Patent Application Number(s)		the same property). t Number(s)
If this document is being filed together with a new Pater signed by the first named executing inventor.	nt Application, enter the date the patent application	was Month Day Year 8-22-2001
Patent Cooperation Treaty (PCT)	PCT	PCT
Enter PCT application number only if a U.S. Application Numbe		PCT
has not been assigned.		
	I number of properties involved. #	1
Fee Amount Fee Amoun	t for Properties Listed (37 CFR 3.41): \$	40.00
Method of Laymond	osed 🚺 Deposit Account	
Deposit Account (Enter for payment by deposit account or if ad	ditional fees can be charged to the account.) Deposit Account Number: #	19-2814
	Authorization to charge additional fees:	Yes 🗸 No 🔄
Statement and Signature		
	belief, the foregoing information is true e original document. Charges to depos	and correct and any it account are authorized, as
indicated herein.	77 A.J.	8/22/01
R. Lee Fraley, Reg. No. 42,550 Name of Person Signing	Signature	Date
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## NO. 313 P. 2

## ATTORNEY DOCKET NO. 38880.4100

## ASSIGNMENT

WHEREAS, I, the undersigned inventor (or one of the undersigned joint inventors), of residence as listed, having invented certain new and useful improvements as below entitled, for which application for United States Letters Patent is made, the said application having been executed on the date set forth below; and

WHEREAS, TEXAS INSTRUMENTS INCORPORATED, a corporation organized and existing under the laws of the state of Delaware, with its principal office at 13500 North Central Expressway, Dallas, Texas 75265, is desirous of acquiring my entire right, title and interest in and to the said invention, and to the said application and any Letters Patent that may issue thereon;

NOW, THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged. I hereby sell and assign to the said TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my entire right, title and interest in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, and extensions thereof; and I hereby authorize and request the Commissioner of Patents and trademarks to issue all patents for said invention, or patent resulting therefrom, insofar as my interest is concerned, to the said TEXAS INSTRUMENTS INCORPORATED, as assignee of my entire right, title and interest.

I also hereby sell and assign to TEXAS INSTRUMENTS INCORPORATED, its successors and assigns, my foreign rights to the invention disclosed in said application, in all countries of the world, including the right to file applications and obtain patents under the terms of the International convention for the Protection of Industrial Property, and of the Buropean Fatent Convention, and further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights.

I hereby further agree that I will communicate to said **TEXAS INSTRUMENTS INCORPORATED**, or to its successors, assigns, and legal representatives, any facts known to me respecting said invention, and at the expense of said assignee company, testify in any legal proceedings, sign all lawful papers, execute all divisional, continuation, reissue and substitute applications, make all lawful oaths, and generally do everything possible to aid said TEXAS INSTRUMENTS INCORPORATED, it successors, assigns and nominees to obtain and enforce proper patent protection for said invention in all countries.

IN WITNESS WHEREOF, I he	reunto set my hand and seal this day and year:
TITLE	CHARGE PUMP CIRCUITS FED WITH CURRENT SOURCES

TITLE OF Invention	CHARGE POIVIP CIRC OTTS TED V	
SIGNATURE OF INVENTOR and NAME	Tradian zamig	yS. Waterfall
DATE	00/00/00	
RESIDENCE (City, County, State)		, Pima, Arizona
DATE APPLICATION ECONTRA	Quintik (	a Da fland
Hotary Fuder - County Hyran County My Contra, Explana Fab 19.	men to: Texas Instruments Incorpor	DAVID A. KREIDER Notory Public - Arizona Pirma County My Comm. Expires Feb 19, 2004

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**RECORDED: 08/22/2001**