

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Jinfa Zhang, et al. Attorney Docket No.: 25808-0011IP1
U.S. Patent No.: 8,711,580
Issue Date: April 29, 2014
Appl. Serial No.: 13/112,532
Filing Date: May 20, 2011
Title: RESONANT CONVERSION SYSTEM WITH OVER-
 CURRENT PROTECTION PROCESSES

DECLARATION OF MARK CRANE

I. Introduction

I, Mark D. Crane hereby declare as follows:

1. I have worked for Vicor Corp. (“Vicor”) since May of 2000 as a full-time employee. I have been asked to explain certain factual information known to me regarding the publication and dissemination of certain documentation related to Vicor’s V•I Chips™, specifically the P048F048T24AL PRM™ Regulator chip datasheet (Rev. 2.2) (“Datasheet”) and the VI Chip White Paper titled, Factorized Power Architecture and V•I Chips (Rev 1.2 January 2007) (“White Paper”). I have not been asked to provide, and do not intend to provide, any explanation of either the technical content of these documents or the operation of the products described in them.

2. I am currently a Senior Marketing Manager at Vicor. During the 2006-2008 timeframe, I worked for the Marketing Deptment, in charge of the internal design group that dealt with Vicor publications regarding Vicor’s products. I personally worked on Vicor documentation and publications regarding Vicor’s PRM™ Regulator products, including the P048F048T24AL PRM™ Regulator chip. As a result, I have personal knowledge of the following information as it relates to Vicor’s publication and dissemination of the Datasheet and the White Paper.

3. As explained below, the Datasheet and White Paper were available to the public and publicly disseminated before March 28, 2010.

II. P048F048T24AL PRM™ Regulator Product, Datasheet, and White Paper

4. My professional responsibilities between 2006 and 2008 included involvement with the team responsible for producing and distributing marketing material and documentation for PRM™ Regulator products, including the P048F048T24AL PRM™ Regulator. I have personal knowledge of how the Datasheet and the White Paper were prepared and distributed by Vicor during this timeframe.

5. I am personally familiar with the datasheets and the white papers that were distributed in conjunction with the sale of PRM products including the P048F048T24AL PRM™ Regulator. I have reviewed Exhibits VICOR-1006 (Datasheet) and VICOR-1008 (White Paper) and can confirm each is an accurate copy of what they purport to be. VICOR-1006 is a Vicor datasheet for the P048F048T24AL PRM Regulator and VICOR-1008 is a Vicor white paper describing use cases for Vicor PRM Regulators. I was able to obtain both documents from archived copies of Vicor's website captured by the Internet Archive, and both documents are entirely consistent with my memory of such datasheets and white papers that I worked on during the 2006-2008 time frame.

6. The Internet Archive webpage snapshots I reference below have, in part, refreshed my recollection regarding the specific webpages provided by vicorpower.com in the 2005-2008 timeframe and how they were linked within the Vicor website.

A. Datasheet for the P048F048T24AL PRM™ Regulator

7. By at least Dec. 4, 2005, Vicor began offering the P048F048T24AL PRM™ Regulator for sale to members of the public.

8. In connection with the release and sale of the P048F048T24AL PRM™ Regulator in the 2005-2008 time frame, Vicor produced and publicly distributed the Datasheet, which describes the features and operation of the P048F048T24AL PRM™ Regulator. Vicor distributed the Datasheet through its vicorpower.com website where it could be retrieved and viewed by any member of the public. The Datasheet was not behind a paywall or otherwise gated. A user of the vicorpower.com website, which was Vicor's primary corporate website during this period, could easily locate the Datasheet by navigating to the home page of the website, and clicking on a link called "datasheets."

9. Vicor also distributed datasheets in the 2006-2008 time frame by physically handing them out to customers and including them in CD-ROMs.

10. Vicor datasheets are updated from time to time. I was able to locate from the Internet Archive (web.archive.org, a third party repository of captured

web pages) the Datasheet that is Exhibit VICOR-1006, which is revision 2.2 of the datasheet for the P048F048T24AL PRM. It may be found at

https://web.archive.org/web/20061018220452/http://www.vicorpower.com/documents/datasheets/48V_48V_240W_PRM.pdf.

11. The Internet Archive indicates that the capture date for Exhibit VICOR-1006 is October 18, 2006. This is consistent with my recollection that the datasheet for the P048F048T24AL PRM was publicly available on Vicor's website since at least 2006. Given the product was being sold since the end of 2005, I believe that the capture date is accurate and I have no reason to doubt it. Vicor would have had a datasheet for the product on its website from 2006 through 2010, and in fact continues to have a version of the datasheet for this product on its website today at

www.vicorpower.com/documents/datasheets/48V_48V_240W_PRM.pdf.

12. As can be seen from comparing the Datasheet (Rev. 2.2) to the current version, the current datasheet had been updated to reflect that the product (which is relatively old) is at its "end of life" and "not recommended for new designs" and had been updated to reflect a new package type (the M package as well as the T package type). A comparison of the datasheets also shows that the general description of the part and the application information has remained consistent over time with minimal changes. For example, I note that the "Product

Description” was virtually unchanged over time, although the “FPA system density” was increased at some point from “169 A/in³ or 390 W/in³” in 2006 to “172 A/in³ or 396 W/in³” in the current datasheet.

13. The capture date of October 18, 2006 is also consistent with the metadata of Exhibit VICOR-1006. When I click on the “properties” menu on the Adobe PDF viewer, I am informed that Exhibit VICOR-1006 was created and last modified on October 17, 2006:

The screenshot shows the 'Document Properties' dialog box with the 'Description' tab selected. The 'Advanced' tab is also visible below. The 'Description' tab contains fields for File, Title, Author, Subject, Keywords, Created, Modified, and Application. The 'Advanced' tab contains fields for PDF Producer, PDF Version, Location, File Size, Page Size, Tagged PDF, Number of Pages, and Fast Web View.

Document Properties	
Description Security Fonts Initial View Custom Advanced	
Description	
File:	48V_48V_240W_PRM.pdf
Title:	PRM Pre_Regulator Module Datasheet - P048F048T24AL
Author:	mbalkan
Subject:	PRM Pre_Regulator Module Datasheet - P048F048T24AL
Keywords:	
Created:	10/17/06, 9:43:22 AM
Modified:	10/17/06, 2:16:43 PM
Application:	QuarkXPress(tm) 6.5
Additional Metadata...	
Advanced	
PDF Producer:	Acrobat Distiller 7.0.5 for Macintosh
PDF Version:	1.6 (Acrobat 7.x)
Location:	/Users/markcrane/Desktop/
File Size:	644.04 KB (659,493 Bytes)
Page Size:	8.50 x 11.00 in
Tagged PDF:	No
Number of Pages:	13
Fast Web View:	Yes

I understand that if an exhibit label or page numbering is added to the PDF, then the “created” and “modified” date may change. And thus the filed exhibit’s properties may differ from what I provide here.

14. In the 2006-2008 time frame (as well as today), any member of the public could access Vicor’s website through the URL www.vicorpower.com. The Datasheet also would have been readily accessible to the public since its posting to the website Internet Archive in 2006. VICOR-1009 is an archived copy of Vicor’s home page available today from the Internet Archive at web.archive.org. It has a capture date of March 19, 2007, and based on the content of the site it appears genuine and populated with data from the 2007 time frame, and I have no reason to doubt the capture date. Exhibit 1009 was obtained at <https://web.archive.org/web/20070319221715/http://www.vicorpower.com/>.

15. A member of the public seeking datasheets would navigate the Vicor website in a variety of ways to get to the datasheet. For example, there is a datasheet selector in the upper right corner. The selector does not function on the Internet Archive version, but it was functional on the Vicor website in 2007. In addition, the member of the public would select, for example, the “Product Catalog,” select “V I Chip Products,” or select “DC-DC converters” and navigate to datasheets through those links or would click on “Tech Data” and navigate to

datasheets that way. For example, the Tech Data link works in the Internet Archive. Clicking that link brings up a listing of various technical documents, including “Datasheets,” as shown in Exhibit VICOR-1010, which has a capture date of March 5, 2007, and found at https://web.archive.org/web/20070305015931/http://vdac2.vicr.com/asp/reprint/reprint_form.asp.

16. Clicking on the “Datasheet” link brings up the datasheets page, as shown in Exhibit VICOR-1011, which has a capture date of March 5, 2007, and found at https://web.archive.org/web/20070205230117/http://www.vicorpower.com/technical_library/datasheets/ and clicking on PRM regulators brings up the “V I Chips” datasheet page, as shown in Exhibit VICOR-1012, which has a capture date of March 28, 2007 and found at https://web.archive.org/web/20070328234131/http://www.vicorpower.com/technical_library/datasheets/chips/.

17. Clicking on the link for the P048F048T24AL PRM brings up the datasheet, and similar datasheets were available for the other PRM products. The link for the Datasheet at Exhibit VICOR-1006 on the Internet Archive is functional and brings up a copy of Exhibit VICOR-1006 at the URL site I provide above with

a capture date of October 18, 2006. This is one day after the datasheet was created based on the metadata of VICOR-1006.

18. Based on my personal knowledge, I recall the release of the P048F048T24AL product and that its datasheet was published on the vicorpower.com website no later than the start of 2006 (which is consistent with Exhibit VICOR-1006 being revision “2.2” of the datasheet).

19. Vicor personnel would verify and confirm that datasheets were accessible to users after they had been posted on the vicorpower.com website. I do not recall any report of any problems with the public accessibility of datasheets on the vicorpower.com website. I thus am confident that the Datasheet was publicly available in 2006, and certainly prior to 2009.

B. White Paper

20. In connection with the sales of Vicor’s PRM™ Regulators, Vicor produced and publicly distributed various white papers, including the White Paper identified above. Vicor distributed the White Paper via hard copies provided to customers and prospective customers, and also through the vicorpower.com website.

21. The White Paper at Exhibit VICOR-1008 is available on the Internet Archive. It was captured on April 10, 2007, and may be found at

<https://web.archive.org/web/20070410185135/http://www.vicorpower.com/fpa101/fpa101.pdf>.

22. The metadata in the White Paper states that this PDF copy was created and last modified on January 25, 2007:

Document Properties

Description | Security | Fonts | Initial View | Custom | Advanced

Description

File: fpa101.pdf

Title: Factorized Power Architecture and V-I Chips FPA WHITE PAPER

Author: Crane

Subject: Factorized Power Architecture and V-I Chips FPA WHITE PAPER

Keywords:

Created: 1/25/07, 10:20:21AM Additional Metadata...

Modified: 1/25/07, 11:49:32 AM

Application: QuarkXPress: pictwpstops filter 1.0

Advanced

PDF Producer: Acrobat Distiller 7.0.5 for Macintosh

PDF Version: 1.3 (Acrobat 4.x)

Location: /Users/markcrane/Desktop/

File Size: 615.26 KB (630,031 Bytes)

Page Size: 8.50 x 11.00 in

Number of Pages: 9

Tagged PDF: No

Fast Web View: Yes

Help Cancel OK

23. Although I do not have a specific recollection of this White Paper, I recall creating and publishing such white papers to the Vicor website in the 2006-2008 time frame. The properties tab indicates that I am the author of this document, and I have no reason to doubt that I was involved in the creation of the White Paper.

24. Based on the contents of the Internet Archive of the Vicor website and my recollection, I am confident that the White Paper being submitted as Exhibit VICOR-1008 was published by Vicor and available to the public by 2007 and certainly before 2009.

25. A member of the public would reach the White Paper through a variety of paths. For example, from the home page at Exhibit VICOR-1015, a member of the public interested in the V●I Chips would navigate to the V●I Chips Products page, Exhibit VICOR-1013, found on the Internet Archive at <https://web.archive.org/web/20070328234045/http://www.vicorpower.com/products/vichip/>. And from there a member of the public would click on the “Datasheets” link to go to the datasheet page I discuss above, or would select for example, “Application Notes,” “FPA Overview,” or “White Papers.” Clicking on “White Papers” brings up a page with two white papers, Exhibit VICOR-1014. One of the two white papers on the page is Exhibit VICOR-1008. Exhibit VICOR-1014 may be found at

<https://web.archive.org/web/20070220190114/http://www.vicorpower.com/products/vichip/whitepapers/>.

26. The link on the website shown in Exhibit VICOR-1014 to the white paper entitled “FPA Overview: An introduction to FPA” links to Exhibit-1008.

27. Vicor personnel would verify and confirm that the White Paper was accessible to users after it had been posted on the vicorpower.com website. I do not recall any report of any problems with the public accessibility of the White Paper on the vicorpower.com website. I thus believe that the White Paper was available to the public via the website by at least February 20, 2007 and continuing past March 28, 2010. For example, I note that substantially the same content is present in a re-titled White Paper in 2008, which was captured on July 5, 2008, and which may be found at

https://web.archive.org/web/20080705191101/http://www.vicorpower.com/technical_library/white_papers/.

28. Clicking on the link “Factorized Power Architecture and VI BRICKS” brings up an HTML version of the White Paper with an option to obtain a PDF copy, but the PDF link is broken on the Internet Archive website. Exhibit 1015 is the HTML version of the White Paper (with a changed title but substantially the same content) captured on July 5, 2008, and which may be found at

https://web.archive.org/web/20080705190645/http://www.vicorpower.com/technical_library/white_papers/

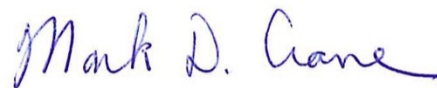
[al_library/white_papers/vibrick_html/](#). This link displays the first page of the White Paper. Pressing the “next” button takes the viewer to subsequent pages.

29. Exhibit 1016 is a copy of an article from Electronic Design from November 15, 2004 entitled “Factorized-Power Module Completes Basic Picture” with an insert called “Inside the VTM.” Electronic Design was one of the leading trade magazines read by circuit designers. This is a scan of a paper copy of the November 15, 2004 edition of the trade magazine that Vicor received from a third party clipping service. The clipping service obtained third party publications and would provide Vicor with the articles on a timely basis. Exhibit 1016 was thus published and widely available in 2006.

III. Jurat

30. I do hereby declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, under Section 1001 of Title 18 of the United States Code.

Dated: March 17, 2024



Mark Crane