Filed on behalf of: PNC Bank, National Association JPMorgan Chase & Co. JP Morgan Chase Bank N.A.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PNC Bank, National Association JPMorgan Chase & Co. JP Morgan Chase Bank N.A., Petitioners

v.

Maxim Integrated Products, Inc., Patent Owner

Patent No. 5,949,880

DECLARATION OF STEPHEN D. BRISTOW

DOCKET

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I, Stephen D. Bristow, declare under penalty of perjury as follows:

I. Introduction

1. I have been retained by The PNC Financial Services Group, Inc. and JPMorgan Chase & Co. ("Petitioners") as an independent expert consultant in this proceeding before the United States Patent and Trademark Office. Although I am being compensated at my rate of \$300 per hour for the time I spend on this matter, no part of my compensation depends on the outcome of this proceeding, and I have no other interest in this proceeding.

2. I understand that this proceeding involves U.S. Patent No. 5,949,880 ("the '880 patent") (attached as Ex. 1001 to the petition). The application for the '880 patent was filed on November 26, 1997, as U.S. Patent Application No. 08/978,798, and the patent issued on September 7, 1999.

3. I have been asked to consider whether certain references disclose or suggest the features recited in the claims of the '880 patent. My opinions are set forth below.

II. Qualifications

4. I hold both a Bachelor of Science and a Master of Science degree in Electrical Engineering. I received my Bachelor of Science in 1973 from the University of California, and I received my Master of Science in 1985 from the University of Santa Clara. 5. By 1996, I had more than two years of experience in secure financial transactions and real-time microcontroller programming. For example, as Director of Engineering for Verifone, Inc. from 1989-1991, I was responsible for the development of technology relating to networking in the point-of-sale (POS) environment, which included:

- Magnetic cash card operated vending systems including cards, readers, audit systems and dispensers
- Spread spectrum LAN links
- Optical check readers using neural network chips
- Cellular radio data link
- POS printers pin pads, and credit card terminals

In that role, I not only gained experience in secure financial transactions and microcontrollers but I also managed people with "a Bachelor of Science degree in electrical engineering or computer engineering with at least two years of practical or post-graduate work in the areas of secure financial transactions and real-time microcontroller programming."

Indeed, I was working on systems for transferring value as far back as a decade prior to the filing date of the '880 patent, including value transfer mechanisms that make use of coins, bills, smart cards, magnetic cash cards, and credit cards that end up

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