

UNITED STATES PATENT AND TRADEMARK OFFICE

---

**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

---

SAMSUNG ELECTRONICS CO. LTD.; SAMSUNG ELECTRONICS  
AMERICA, INC.; SAMSUNG TELECOMMUNICATIONS AMERICA, LLC;  
AND SAMSUNG AUSTIN SEMICONDUCTOR, LLC;  
Petitioner

v.

REMBRANDT WIRELESS TECHNOLOGIES, LP  
Patent Owner

---

Case IPR2014-00518  
Patent 8,023,580

---

**DECLARATION OF DAVID GOODMAN**

**IN SUPPORT OF  
PETITION FOR *INTER PARTES* REVIEW  
OF U.S. PATENT NO. 8,023,580**

Annex Exhibit 1024

## TABLE OF CONTENTS

|       |  |    |
|-------|--|----|
| I.    | INTRODUCTION .....   | 1  |
| II.   | EXPERT QUALIFICATIONS AND CREDENTIALS.....   | 1  |
| III.  | BASIS FOR OPINIONS AND MATERIALS REVIEWED.....   | 5  |
| IV.   | LEGAL PRINCIPLES.....  | 6  |
|       | A. Anticipation .....  | 6  |
|       | B. Obviousness.....  | 9  |
|       | C. Claim Interpretation in <i>Inter Partes</i> Review.....   | 15 |
| V.    | THE TECHNOLOGY DESCRIBED IN THE `580 PATENT .....  | 15 |
| VI.   | THE ADMITTED PRIOR ART IN THE `580 PATENT .....  | 18 |
| VII.  | PROSECUTION HISTORY OF THE `580 PATENT.....  | 20 |
| VIII. | PERSON OF ORDINARY SKILL IN THE ART .....  | 21 |
| IX.   | CLAIM CONSTRUCTION .....   | 21 |
|       | A. “At Least Two Types Of Modulation Methods” (Claims 1 and 58)...   | 21 |
|       | B. “First Modulation Method” (Claims 1, 2, 13, 19, 21, 22, 49, 54,<br>58, 59, 70, 76, 78, 79) And “Second Modulation Method” (Claims<br>1, 13, 20, 22, 49, 54, 58, 70, 77, 79) ..... | 23 |
|       | C. “Master” (Claims 1, 2, 10, 11, 12, 49, 54, 58, 59, 66, 68, 69).....   | 24 |
|       | D. “Slave” (Claims 1,2, 10, 11, 58, 59, 66, 68) .....  | 24 |
| X.    | The Prior Art.....   | 25 |
|       | A. Claims 1, 2, 4-5, 10, 13, 19-22, 49, 52-54, 57-59, 61, 62, 66, 70,<br>and 76-79 Are Rendered Obvious Under 35 U.S.C. § 103 By<br>Admitted Prior Art (“APA”) In View Of Boer ..... | 25 |
|       | 1. The Admitted Master/Slave Prior Art.....  | 25 |
|       | 2. The Prior Art Boer Patent .....   | 26 |

|    |   |    |
|----|---|----|
| 3. | Motivation To Combine The Admitted Prior Art With Boer ...  | 27 |
| 4. | Background on Modulation Methods .....  | 31 |
| 5. | The Admitted Prior Art in the `580 Patent In View Of Boer<br>Renders Claims 1, 2, 4-5, 10, 13, 19-22 Obvious..... | 33 |
| 6. | APA In View Of Boer Renders Claims 49, 52-54 and 57<br>Obvious .....  | 44 |
| 7. | APA In View Of Boer Renders Claims 58-59, 61, 62, 66,<br>70, and 76-79 Obvious.....                               | 49 |

I, David Goodman, declare:

## **I. INTRODUCTION**

1. My name is David J. Goodman. I am currently a Professor Emeritus in the Department of Electrical and Computer Engineering of New York University (NYU).

2. I have been retained by Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., Samsung Telecommunications America, LLC, and Samsung Austin Semiconductor, LLC (“Petitioners”) to provide my expert opinions regarding U.S. Patent No. 8,023,580 (“the `580 patent”). More specifically, I have been asked to give my opinion about the meanings of certain terms of the `580 Patent claims, and to compare the `580 Patent claims to prior patents and publications. I submit this declaration in support of Petitioner’s petition for inter partes review of the `580 Patent.

3. I am being compensated for my work in this matter. My compensation in no way depends upon the outcome of this proceeding.

## **II. EXPERT QUALIFICATIONS AND CREDENTIALS**

4. My qualifications are set forth in my curriculum vitae, a copy of which is attached as Appendix A to this declaration, including lists of lists of my journal publications, books I have authored or edited, and my patents.

5. I received a Bachelor’s degree at Rensselaer Polytechnic Institute in 1960, a Master’s degree at New York University in 1962, and a Ph.D. at Imperial College, University of London in 1967, all in electrical engineering.

6. From 1967 to 1988, I was at Bell Laboratories, where I eventually became head of the Radio Research Department. In 1988, I moved to Rutgers, the State University of New Jersey where I was a Professor of Electrical and Computer Engineering and Chairman of the Department of Electrical and Computer Engineering. In 1989, I founded the Wireless Information Network Laboratory (WINLAB) at Rutgers University. WINLAB was the first center of excellence at a United States university focused on wireless telecommunications. In 1991, WINLAB was designated the National Science Foundation Industry/University Cooperative Research Center for Wireless Information Networks.

7. In 1999, I joined NYU as Professor of Electrical and Computer Engineering and Head of the Department of Electrical and Computer Engineering. I was also Director of the Wireless Internet Centre for Advanced Technology (WICAT), with sites at NYU, University of Virginia, Auburn University, and Virginia Tech. WICAT was a National Science Foundation Industry/University Cooperative Research Center. In May 2008, I retired from my position of Professor of Electrical and Computer Engineering at NYU and was awarded my present title of Professor Emeritus.

8. In 1995, I was a Research Associate at the Program on Information Resources Policy at Harvard University. In 1997, I was Chairman of the National Research Council Committee studying “The Evolution of Untethered Communications.” In 2006 and 2007, I was a Program Director at the National Science Foundation. From 2011 until October 2013, I was a member of the

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.