

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZTE (USA) Inc.,
Samsung Electronics Co., Ltd., and
Samsung Electronics America, Inc.,
Petitioner,

v.

Fundamental Innovation Systems International LLC,
Patent Owner.

Case IPR2018-00111
Patent No. 8,624,550

PATENT OWNER'S PRELIMINARY RESPONSE

Mail Stop "PATENT BOARD"
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

TABLE OF CONTENTS

	<u>Page</u>
I. Introduction	1
II. USB Communication Protocol.....	1
A. USB Architecture.....	1
B. USB Connections	2
C. Power Distribution	3
D. Communication Between Host And Device Requires Enumeration	3
E. Single Ended 1 ("SE1") Line State	5
III. The '550 Patent Presents An Elegant Solution To A Complex Problem.....	8
A. Need For Enumeration Limits Power Sources Suitable For Charging A USB Device	8
B. Parts Of The '550 Patent Solution.....	9
IV. The Prior Art References Differ From The '550 Inventions	10
A. Rogers Overview.....	11
B. Shiga Overview	13
V. Skill Level of A POSA.....	15
VI. Claim Construction.....	15
A. "To Supply Current . . . Without Regard To At Least One Associated Condition Specified In A USB Specification"	15
B. "Supply Current . . . Without Regard To At Least One USB Specification Imposed Limit"	17
VII. Ground 1: Claims 1-3, 9-12, and 18 Are Not Rendered Obvious By Rogers	18

A.	Petitioner Fails To Present Competent Evidence That Rogers Discloses Or Renders Obvious An Adapter "Configured To Supply Current On The VBUS Line Without Regard To A At Least One Associated Condition Specified In A USB Specification" (Claim 1)	18
1.	Supplying 48VDC (Voltage) Does Satisfy The Limitation "Supply Current Without Regard To At Least One Associated Condition Specified In A USB Specification"	19
2.	Rogers Does Not Teach Or Make Obvious Supplying Current In Excess Of 500mA	21
a)	Rogers Increases Power By Adjusting Voltage And Not Current	22
b)	Petitioner Conflates the Current Consumption Internal to the Accessory Shown in Figure 7(b) with Current Supplied at VBUS pin in Figure 7(a)	24
c)	A POSA Would Have No Reason To Modify Rogers To Provide More Than 500mA Of Current Across The VBUS Line	27
3.	Rogers Does Not Teach Or Make Obvious An Adapter Configured To Supply Current On The VBUS Line Without Regard To The USB 2.0 Specification's Condition That A Device May Not Consume 100mA Of Current Until Configured	28
4.	Rogers Does Not Teach Or Make Obvious Supplying Current Without Regard To "Enumeration Conditions" Specified In A USB Specification	31
B.	Petitioners Fail To Present Competent Evidence That Rogers Discloses Or Renders Obvious An Adapter "Configured To Supply Current On The VBUS Line	

Without Regard To At Least One USB Specification Imposed Limit" (Claim 10).....	36
C. Petitioners Fail To Present Competent Evidence That Rogers Discloses Or Makes Obvious Challenged Claims 2 Or 11.....	37
D. Petitioners Fail To Present Competent Evidence That Rogers Discloses Or Renders Obvious The Adapter Of Claims 2 Or 11, "Wherein Said Current Limit Is 500 Ma" (Claims 9, 18).....	37
E. Petitioners Fail To Present Competent Evidence That Rogers Discloses Or Renders Obvious The Adapter Of Claims 1 Or 10, "Wherein Said Current Is Supplied Without USB Enumeration" (Claims 3, 12)	37
VIII. Ground 2: The Petition Provides No Competent Evidence Of Motivation To Implement The Proposed Rogers/Shiga Combination, And Ignores That Doing So Would Result In An Inoperable System	38
A. The Petition Fails To Provide Any Substantiation For Its Assertion That A POSA Would Look To Shiga To Find A Way To Indicate To The Base Station That A Connected Device Is 48VDC Capable.....	42
1. Petitioners Fail To Explain Why A POSA Would Have Chosen SE1 Over Normal USB Communication Protocol	43
a) Rogers Uses Normal USB Protocols To Communicate The 48VDC Capability	43
b) The Petition Fails To Address POSA Concerns Regarding Consequences Of Employing An SE1 Signal To Communicate Information	47
2. Shiga Is Not Analogous Art And Solves A Completely Different Problem	49

	<u>Page</u>
3. No Prior Art References Teach The Use Of SE1 In Normal USB Communication.....	53
4. Absence Of Explicit Discouragement Of SE1 Is Not A Motivation To Use SE1	55
B. A POSA Would Believe That The Proposed Combination Would Lead To Detrimental Results Because The Base Unit Cannot Distinguish An SE1 Signal From A 48VDC Compliant Device And An SE1 Signal Generated In Error By A Non-48VDC Device.....	55
1. Scenario 1: A POSA Would Believe That Assuming SE1 Always Comes From A 48VDC Device Would Electrically Damage Low Voltage Devices And Lead To Errors That Are Difficult To Isolate.....	57
2. Scenario 2: A POSA Would Believe That Responding To SE1 In Accordance With The USB Specification Interrupts USB Communication	59
3. SE1 Signaling Provides No Advantage Over Normal USB Enumeration Process	62
IX. Conclusion.....	63

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.