

**UNITED STATES PATENT AND TRADEMARK OFFICE**

---

**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

---

TCT MOBILE (US), INC.; TCT MOBILE (US) HOLDINGS, INC.;  
HUIZHOU TCL MOBILE COMMUNICATION CO. LTD.; AND  
TCL COMMUNICATION, INC.,  
Petitioner,

v.

FUNDAMENTAL INNOVATION SYSTEMS INTERNATIONAL LLC,  
Patent Owner.

---

Case IPR2021-00599  
Patent No. 7,834,586

---

**FUNDAMENTAL INNOVATION SYSTEMS INTERNATIONAL LLC's  
PATENT OWNER 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**

	<b><u>Page</u></b>
I. Introduction.....	1
II. Background on the USB Communication Protocol .....	6
A. USB Hubs.....	7
B. Power Supply to USB Devices and Hubs .....	8
C. Enumeration to Establish Communication Between Host and Device.....	10
D. Single Ended 1 (“SE1”) Line State .....	10
III. The ‘586 Patent Relates To USB Charging In A Mobile Device .....	12
IV. Summary of the Asserted Prior Art.....	14
A. Morita .....	14
B. SE1 References.....	19
V. Skill Level of a POSITA .....	21
VI. Claim Construction.....	21
VII. The Challenged Claims Are Not Obvious Over Morita.....	22
A. A POSITA Would Not Have Modified Morita’s Videophone To Detect A Signal That Identifies A Power Source Type Unless They Anticipate That Such A Signal Would Be Sent To The Videophone.....	22
B. The Challenged Claims Are Directed To Battery Charging In a Mobile Device .....	25
C. Because SE1 Would Disrupt USB Communication And Enumeration, Petitioner’s Proposed Combination Would Render Morita Inoperable for Its Intended Purpose.....	28

1.	Morita does not provide a charger for the sake of charging alone .....	37
2.	Morita’s mobile device engages in USB communication when connected to the charger.....	41
3.	Morita’s mobile device needs to maintain communication with USB hub charger to learn of device attachment or detachment.....	44
D.	There Is No Reason To Use SE1 To Indicate That Morita’s Charger Is A High-Powered Port .....	48
1.	Morita’s USB port 21 would act as a high-power hub port even when a PC is connected .....	49
2.	The USB specification already provides means to identify self-powered hubs to the host.....	53
E.	Petitioner Used The ‘586 Patent As A Roadmap To Cull Elements From Prior Art .....	56
1.	Prior Art Did Not Teach Using SE1 As The Claimed Identification Signal.....	58
2.	Petitioner Has Not Addressed Complications Associated With Using SE1 In Morita’s USB System.....	61
3.	Dr. Baker Incorrectly Assumed That SE1 Is The Only Option For Charge-Only Mode.....	63
VIII.	Conclusion .....	65

**TABLE OF AUTHORITIES**

	<b>Page(s)</b>
<b>Cases</b>	
<i>Arendi S.A.R.L v. Apple Inc.</i> , 832 F.3d 1355 (Fed. Cir. 2016) .....	<i>passim</i>
<i>ATD Corp. v. Lydall, Inc.</i> , 159 F.3d 534 (Fed. Cir. 1998) .....	57
<i>Catalina Marketing Intern. v. Coolsavings. com</i> , 289 F.3d 801 (Fed. Cir. 2002) .....	22
<i>In re Gordon</i> , 733 F.2d 900 (Fed. Cir. 1984) .....	48
<i>In re Gorman</i> , 983 F.2d 982 (Fed. Cir. 1991) .....	57
<i>Huawei Device Co., Ltd. v. Fundamental Innovation Systems Int’l LLC</i> , IPR2018-00485, Paper 8 (PTAB, Sept. 4, 2018).....	62
<i>LG Electronics, Inc. v. Fundamental Innovation Systems Int’l LLC</i> , IPR2018-00493, Paper 10 (PTAB Aug. 30, 2018).....	61
<i>Monarch Knitting Machinery v. Sulzer Morat GmbH</i> , 139 F.3d 877 (Fed. Cir. 1998) .....	36
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005) ( <i>en banc</i> ) .....	26
<i>South-Tek Sys., LLC v. Engineered Corrosion Solutions, LLC</i> , 748 Fed. Appx. 1003 (Fed. Cir. 2018).....	55
<i>TCT Mobile (US), Inc. v. Fundamental Innovation Systems Int’l LLC</i> , IPR2021-00597, Paper 8 (PTAB, Aug. 25, 2021).....	2, 18
<i>TCT Mobile (US), Inc. v. Fundamental Innovation Systems Int’l LLC</i> , IPR2021-00598, Paper 8 (PTAB, Aug. 30, 2021).....	2, 5, 18

*W. L. Gore & Assocs., Inc. v. Garlock, Inc.*,  
721 F.2d 1540 (Fed. Cir. 1983) .....61

**Regulations**

37 C.F.R. §42.65(a);.....53

# 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.