

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 8,624,550 B2

Before RAE LYNN P. GUEST, JO-ANNE M. KOKOSKI, and
JON B. TORNQUIST, *Administrative Patent Judges*.

TORNQUIST, *Administrative Patent Judge*.

DECISION TO INSTITUTE
35 U.S.C. § 314(a)

I. INTRODUCTION

ZTE (USA) Inc., Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–18 of U.S. Patent No. 8,624,550 B2 (Ex. 1001, “the ’550 patent”). Fundamental Innovation Systems International LLC (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 12, “Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314. The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least 1 claim challenged in the Petition. Accordingly, we institute an *inter partes* review on all challenged claims and on all grounds set forth in the Petition.

A. *Related Proceedings*

The parties identify Civil Action Nos. 2:17-cv-00145-JRG, 2:16-cv-1424-JRG-RSP, and 2:16-cv-01425-JRG-RSP, pending before the U.S. District Court for the Eastern District of Texas, and Civil Action No. 3:17-cv-01827-N, pending in the U.S. District Court for the Northern District of Texas, as related matters. Pet. 1; Paper 10, 1. The parties further note that the ’550 patent is the subject of IPR2018-00110. Pet. 1; Paper 10, 2.

B. USB 2.0 Compliant Cables

Cables compliant with the USB 2.0 standard have four conductors: VBUS, D+, D-, and GND. Ex. 1008, 17–18, 86; Ex. 1009 ¶ 34. The VBUS and GND conductors of the USB cable are used to deliver power to devices and the D+ and D- conductors carry communication signals between a USB host and a connected device. Ex. 1008, 17–18; Ex. 1009 ¶¶ 34–35; Ex. 1001, 7:11–16. Figure 4–2 of the USB 2.0 specification, reproduced below, depicts these four conductors within a USB cable:

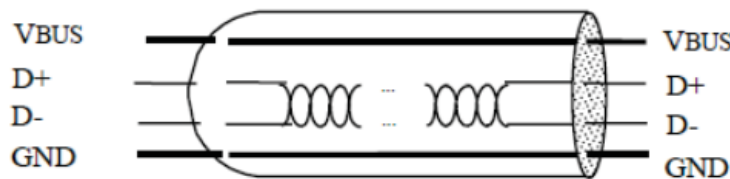


Figure 4-2. USB Cable

Ex. 1008, 17.

C. The '550 Patent

The '550 patent discloses “a USB adapter for providing a source of power to a mobile device through a USB port.” Ex. 1001, 2:34–36.

The '550 patent explains that although it was understood in the art that a USB interface could be used as a power interface, it was typically not used for that purpose by mobile devices. *Id.* at 2:1–3. This is because “a USB device must participate in a host-initiated process called enumeration in order to be compliant” with the USB specification in drawing power from the USB interface, and “alternate power sources such as conventional AC outlets and DC car sockets” were “not capable of participating in enumeration.” *Id.* at 2:3–15.

To permit the recharging of mobile devices using a broader range of power sources, the '550 patent provides a USB adapter that is capable of

providing power to a mobile device without first participating in enumeration. *Id.* at 8:21–26. Figure 2 of the '550 patent, reproduced below, is a schematic diagram of the disclosed USB adapter coupled to an exemplary mobile device (*id.* at 3:35–36):

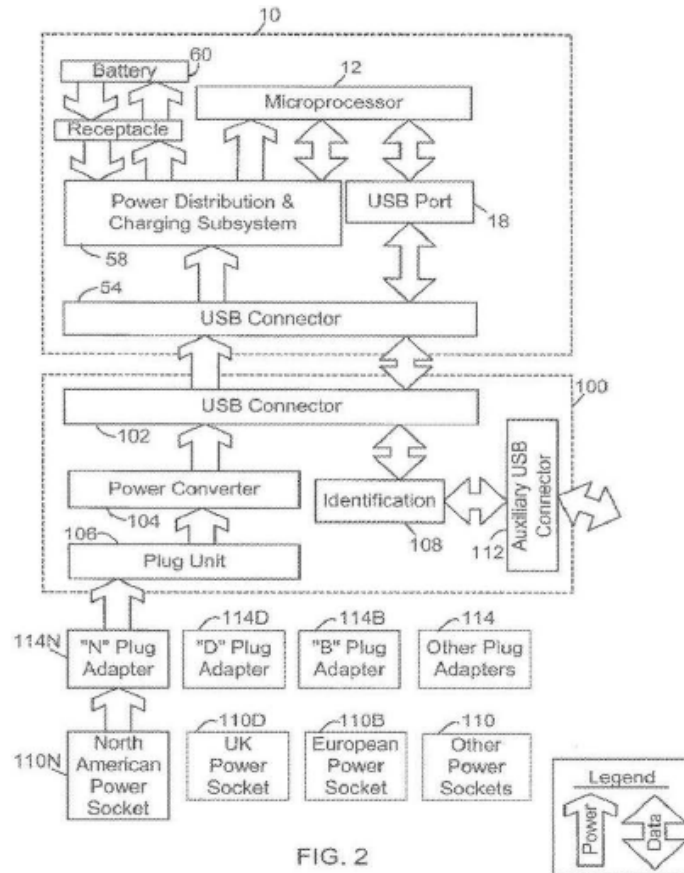


FIG. 2

As shown in Figure 2, USB adapter 100 comprises primary USB connector 102, power converter 104, plug unit 106, identification subsystem 108, and auxiliary USB connector 112. *Id.* at 6:63–66, 7:5–8. The '550 patent discloses that when USB adapter 100 is connected to mobile device 10 via USB connector 54 of mobile device 10 and USB connector 102 of USB adapter 100, identification subsystem 108 provides an identification signal to mobile device 10 indicating that the power source is not a USB limited source. *Id.* at 7:9–11, 8:21–29. This identification signal

“could be the communication of a single voltage on one or more of the USB data lines, different voltages on the two data lines, a series of pulses or voltage level changes, or other types of electrical signals.” *Id.* at 8:29–33. “The preferred identification signal,” however, “results from the application of voltage signals greater than 2 volts to both the D+ and D- lines in the USB connector.” *Id.* at 9:26–28. The ’550 patent explains that by providing an appropriate identification signal the mobile device 10 can “forego the enumeration process and charge negotiation process” set forth in the USB specification “and immediately draw energy from the USB power adapter” at a desired rate. *Id.* at 9:65–10:3.

Auxiliary USB connector 112 allows the adapter “to create a communication path between the mobile device 10 and some other device capable of communicating over the USB.” *Id.* at 8:46–53. This communication path preferably extends “between the D+ and D- pins of the Primary USB connector 102 and the D+ and D- pins of the auxiliary USB connector 112.” *Id.* at 8:54–57.

D. Illustrative Claims

Petitioner challenges claims 1–18 of the ’550 patent. Independent claims 1 and 10 are illustrative of the challenged claims and are reproduced below:

1. An adapter comprising:
a USB VBUS line and a USB communication path,
said adapter configured to supply current on the VBUS line
without regard to at least one associated condition specified in a
USB specification.

Ex. 1001, 12:8–12.

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