

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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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.

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IPR2021-00395  
Patent 7,239,111 B2

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Before MIRIAM L. QUINN, JO-ANNE M. KOKOSKI, and  
ARTHUR M. PESLAK, *Administrative Patent Judges*.

PESLAK, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

TCT Mobile (US), Inc.; TCT Mobile (US) Holdings, Inc.; Huizhou TCL Mobile Communication Co. Ltd.; and TCL Communication, Inc. (collectively “Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–14 and 16–18 (the “challenged claims”) of U.S. Patent No. 7,239,111 B2 (Ex. 1001, “the ’111 patent”). Patent Owner, Fundamental Innovation Systems International LLC, timely filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314(a). *See also* 37 C.F.R. § 42.4(a) (2020) (“The Board institutes the trial on behalf of the Director.”). Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Taking into account the Petition, the arguments presented in the Preliminary Response, and all supporting evidence, we conclude that the information presented in the Petition does not establish a reasonable likelihood that Petitioner would prevail in showing that at least one claim of the ’111 patent is unpatentable. Pursuant to 35 U.S.C. § 314, and for the reasons stated below, we do not institute an *inter partes* review of the challenged claims of the ’111 patent.

### A. Related Matters

The parties state that the ’111 patent is asserted in *Fundamental Innovation Systems International LLC v. Coolpad Group Limited, et al.*, No. 2:20-cv-00117 (E.D. Tex.); *Fundamental Innovation Systems International LLC v. Belkin, Inc., et al.*, No. 1:20-cv-00550 (D. Del.); *Fundamental*

*Innovation Systems International LLC v. Lenovo (United States) Inc., et al.*, No. 1:20-cv-00551 (D. Del.); and *Fundamental Innovation Systems International LLC v. TCT Mobile (US) Inc., et al.*, No. 1:20-cv-00552 (D. Del.). Pet. 70; Paper 4, 2. In addition, Patent Owner states that the '111 patent was the subject of IPR2018-00276, IPR2018-00495, and IPR2018-00487. Paper 4, 3.

### *B. Real Parties-in-Interest*

Petitioner identifies TCT Mobile (US), Inc., TCT Mobile (US) Holdings, Inc., Huizhou TCL Mobile Communication Co. Ltd., and TCL Communication, Inc. as real parties-in-interest. Pet. 69. Patent Owner identifies Fundamental Innovation Systems International LLC and Fundamental Innovation Systems International Holdings LLC as real parties-in-interest. Paper 4, 1.

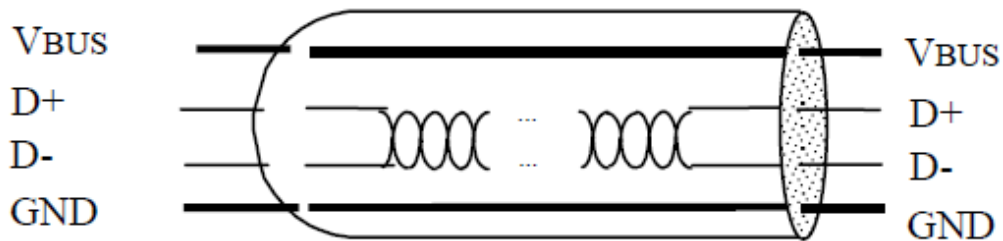
### *C. Technology Background*

An overview of USB<sup>1</sup> cables and the standard USB specification is helpful in understanding the technology involved in the '111 Patent, which relates to charging a mobile device through a USB connector. *See* Ex. 1001, Fig. 3. Cables compliant with the USB 2.0 standard have four conductors: VBUS, D+, D-, and GND. Ex. 1011, 17–18, 86<sup>2</sup>. 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. *Id.* at 17–18; Ex. 1001, 7:4–11. Figure 4–2 of the USB 2.0 specification, reproduced below, depicts these four conductors within a USB cable:

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<sup>1</sup> “USB” is an acronym for “Universal Serial Bus.” Ex. 1010, 1.

<sup>2</sup> We refer to the original printed page numbers in this Exhibit.



**Figure 4-2. USB Cable**

Ex. 1011, 17. Figure 4–2 illustrates the arrangement of conductors in a USB cable.

The USB 2.0 specification designates “SE1” as a state in which D+ and D– conductors are both high (i.e., at a voltage greater than 0.8 V). *See id.* at 123, 145. The USB 2.0 specification states that “[l]ow-speed and full-speed USB drivers must never ‘intentionally’ generate an SE1 on the bus.” *Id.* at 123; *see also id.* at 148 n.4 (“A high-speed driver must never ‘intentionally’ generate a signal in which both D+ and D– are driven to a level above 200 mV. The current-steering design of a high-speed driver should naturally preclude this possibility.”).

#### *D. The '111 Patent*

The '111 patent is titled “Universal Serial Bus Adapter for a Mobile Device.” Ex. 1001, code (54). The '111 patent issued on July 3, 2007 from an application filed on July 6, 2005. *Id.* at codes (45), (22). The patent claims priority through a chain of related applications to Provisional Application No. 60/273,021, filed on March 1, 2001, and to Provisional Application No. 60/330,486, filed on October 23, 2001. *Id.* at codes (63), (60); *see also id.* at 1:8–20.

The '111 patent “relates generally to power adapters. More particularly, the invention relates to power adapters for use with mobile

devices.” *Id.* at 1:26–28. The ’111 patent explains that “[a]lthough the USB interface can be used as a power interface, the USB is typically not used for that purpose by mobile devices.” *Id.* at 1:52–54. According to the ’111 patent, the USB specification requires “that a USB device participate in a host-initiated process called enumeration in order to be compliant with the current USB specification in drawing power from the USB interface.” *Id.* at 1:54–59. The ’111 patent states that it would be preferable “to be able to utilize alternate power sources such as conventional AC outlets and DC car sockets that are not capable of participating in enumeration to supply power to the mobile device via a USB interface.” *Id.* at 1:59–67.

Figure 2, reproduced below, shows a USB adapter coupled to an exemplary mobile device.

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