

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TCT MOBILE, INC. AND TCT MOBILE (US) INC.,
Petitioner,

v.

WIRELESS PROTOCOL INNOVATIONS, INC.,
Patent Owner.

Case IPR2016-01861
Patent 9,125,051 B2

Before KEVIN F. TURNER, MITCHELL G. WEATHERLY, and
KAMRAN JIVANI, *Administrative Patent Judges*.

TURNER, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Determining Claims 1, 2, 4, 5, 21–23, 25, and 26 Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. BACKGROUND

TCT Mobile, Inc. and TCT Mobile (US) Inc. (collectively “TCT”) filed a petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1, 2, 4, 5, 21–23, 25, and 26 (the “challenged claims”) of U.S. Patent No. 9,125,051 B2 (Ex. 1001, “the ’051 Patent”). 35 U.S.C. § 311. TCT supported the Petition with evidence including the declaration of Stuart J. Lipoff (Ex. 1005). Wireless Protocol Innovations, Inc. (“WPI”) timely filed a Preliminary Response. Paper 5 (“Prelim. Resp.”). WPI supported its Preliminary Response with evidence including the declaration of Gary Lomp, Ph.D. (Ex. 2001). On March 24, 2017, based on the record before us at the time, we instituted an *inter partes* review of claims 1, 2, 4, 5, 21–23, 25, and 26. Paper 8 (“Decision on Institution” or “Dec.”). We instituted the review on the following challenge:

References	Basis	Claims challenged
International Patent Publication No. WO 99/61993 (Ex. 1022, “Abi-Nassif”), Data-Over-Cable Service Interface Specifications, ¹ Radio Frequency Interface Specification, Second Interim Release, Document Control No. SP-RFiv1.1-I02-990731 (Ex. 1019, “DOCSIS 1.1”), and Alleged Admitted Prior Art (“APA”)	§ 103	1, 2, 4, 5, 21–23, 25, and 26

After we instituted this review, Patent Owner filed a Patent Owner Response in opposition to the Petition (Paper 19, “PO Resp.”) that was

¹ We refer to the first version of the Data-Over-Cable Service Interface Specifications as “DOCSIS.”

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supported by a Second Declaration from Gary Lomp, Ph.D. (Ex. 2004).
Petitioner filed a Reply in support of the Petition (Paper 24, “Reply”).
Patent Owner did not move to amend any claim of the ’051 Patent.

We heard oral argument on December 7, 2017. A transcript of the
argument has been entered in the record (Paper 32, “Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). The evidentiary standard
is a preponderance of the evidence. *See* 35 U.S.C. § 316(e); 37 C.F.R.
§ 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C.
§ 318(a) and 37 C.F.R. § 42.73. For the reasons expressed below, we
conclude that Petitioner has demonstrated by a preponderance of evidence
that claims 1, 2, 4, 5, 21–23, 25, and 26 are unpatentable.

B. RELATED PROCEEDINGS

TCT and WPI identified as related proceedings the co-pending district
court proceedings of *Wireless Protocol Innovations, Inc. v. TCL
Corporation, et al.*, Case Number 6:15-cv-918 (E.D. Tex.) and *Wireless
Protocol Innovations, Inc. v. ZTE Corporation, et al.*, Case Number 6:15-cv-
919 (E.D. Tex.). Pet. 2–3; Paper 4, 2. Additional claims of the instant
patent, specifically claims 6, 7, 9–12, and 14–19 of the ’051 Patent, are the
subject of concurrent proceeding for *inter partes* review in IPR2016-01865.

WPI identified three issued U.S. patents and two pending U.S. patent
applications as being related to the ’051 Patent including: U.S. Patent
Nos. 7,173,921 B2, 8,274,991 B2, and 8,565,256 B2; and U.S. Application
Nos. 14/078,246 and 14/805,051. Paper 4, 3. The following *inter partes*
reviews initiated by TCT are also considered related:

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Proceeding	Patent No.	Status
IPR2016-01492	6,381,211 B2	Motion for adverse judgment granted: June 6, 2017
IPR2016-01494	8,274,991 B2	Final Written Decision issued February 12, 2018
IPR2016-01700	6,381,211 B2	Motion for adverse judgment granted: June 6, 2017
IPR2016-01702	6,381,211 B2	Motion for adverse judgment granted: June 6, 2017
IPR2016-01704	8,565,256 B2	Final Written Decision issued March 1, 2018

C. THE '051 PATENT

The '051 Patent relates to “point-to-multipoint communication; in particular, the invention relates to control of contention for data slots by customer premises equipment in a wireless point-to-multipoint communication system.” Ex. 1001, 1:37–40. “Contention” is shorthand for the process by which many instances of customer provided equipment (one being a “CPE”) negotiate for assignment of data slots available from a base station controller (“BSC”). *Id.* at 1:44–55. The Specification identifies problems with conventional methods when two CPEs “collide” while requesting a data slot, especially when the traffic from the CPEs is not “bursty” (e.g., traffic generated by online games and voice sources). *Id.* at 1:59–2:12. To address such problems, the Specification suggests a system of “using a new state machine to control a contention state” that “includes a grant pending absent state in which the [CPE] is polled with a unicast

request slot.” *Id.* at 2:23–31. The Specification briefly describes the grant pending absent state as follows:

By virtue of the grant pending absent state, the customer premises equipment can request a data slot without entering into contention and generating excess contention traffic. After a suitable delay without more data being received to send upstream, the state machine can exit the grant pending absent state. This delay preferably is long enough for receipt of new non-bursty data for a communication, for example 50 ms.

Id. at 2:36–42.

Of the challenged claims, only claims 1 and 21 are independent, and dependent claims 2, 4, 5, 22, 23, 25, and 26 depend directly from either claim 1 or 21. *Id.* at 9:60–10:41, 12:35–13:31. Claim 1 is deemed representative and recites as follows:

1. A method of operating a wireless communication unit, comprising:
 - transmitting a first type request message to a base station controller (BSC) unit in a contention slot;
 - receiving an upstream data transmission grant from the BSC unit;
 - transmitting pending data to the BSC unit within a data slot specified by the upstream data transmission grant;
 - transmitting a second type request message to the BSC unit within the data slot, the second type request message indicative of an amount of data pending for upstream transmission;
 - receiving a subsequent upstream data transmission grant from the BSC unit;
 - transmitting a first additional pending data to the BSC unit in a specified subsequent data slot specified by the subsequent upstream data transmission grant;
 - transmitting an additional second type request message to the BSC unit within the specified subsequent data slot if there

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