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2016

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARRIS GROUP, INC.,
Petitioners,

v.

TQ DELTA, LLC,
Patent Owner.

Case IPR2016-00429
Patent 8,432,956 B2

Before SALLY C. MEDLEY, KALYAN K. DESHPANDE, and TREVOR M. JEFFERSON, *Administrative Patent Judges*.

JEFFERSON, *Administrative Patent Judge*.

DECISION
Decision Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Arris Group, Inc. ("Petitioner") filed a Petition (Paper 1, "Pet.") to institute an *inter partes* review of claims 1–10 of U.S. Patent No. 8,432,956 B2 (Ex. 1001, "the '956 patent") pursuant to 35 U.S.C. §§ 311–319. TQ Delta, LLC ("Patent Owner") filed a Preliminary Response to the Petition. (Paper 6, "Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314(a). Section 314(a) provides that an *inter partes* review may not be instituted "unless . . . 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 associated evidence, we conclude that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing unpatentability of claims 1–10.

A. Related Proceedings

Petitioner states that the ""956 patent is asserted in *TQ Delta LLC v. 2Wire Inc.*, Case No. 1-13-cv-01835 (D. Del.). Pet. 2–3. In addition, the '956 patent is asseted in *TQ Delta LLC v. Zhone Technologies Inc*., Case No. 1:13-cv-01836 (D. Del.); TQ Delta LLC v. ZyXELComms. Corp., Case No. 1:13-cv-02013 (D. Del.); TQ Delta LLC v. ADTRAN Inc., Case No. 1:14-cv-00954 (D. Del.); Adtran Inc v. TQ Delta LLC, Case No. 1:15-cv-00121 (D. Del.); TQ Delta LLC v. Comcast Corp., et. al., Case No. 1:15-cv-00611 (D. Del.); TQ Delta LLC v. CoxCom LLC et al., Case No. 1:15-cv-00612 (D. Del.); TQ Delta LLC v. DirecTV et al., Case No. 1:15-cv-00613 (D. Del.); TQ Delta LLC v. DISH Network Corp. et al., Case No. 1:15-cv-00614 (D. Del.); TQ Delta LLC v. Time Warner Cable Inc., et al., Case No. 1:15-cv-00615 (D. Del.); and TQ Delta LLC v. Verizon Services Corp.,

Case No. 1:15-cv-00616 (D. Del.). Pet. 3.

B. The '956 Patent

The '956 patent provides a systems and methods "to reliably exchange diagnostic and test information between transceivers over a digital subscriber line in the presence of voice communications and/or other disturbances." Ex. 1001, 1:63–65. The systems and methods include the use of a diagnostic link mode in the communication of diagnostic information from a remote terminal (RT) transceiver or modem to the central office (CO) transceiver or modem, where either modem transmits a message to the other modem to enter diagnostic link mode. *Id*. at 2:63–67, 3:19–29. Each modem includes a transmitter section for transmitting data and a receiver section for receiving data, and is of the discrete multitone (DMT) type (the modem transmits data over a multiplicity of subchannels of limited bandwidth). *Id*. at 2:9–13. In diagnostic mode, the RT modem sends diagnostic and test information as bits that are modulated to the CO modem. *Id*. at 3:50–53. One described modulation technique includes Differential Phase Shift Keying (DPSK) on a subset of all the carriers, as specified in ITU standard G.994,1, higher order Quadrature Amplitude Modulation (QAM) (>1 bit per carrier). *Id*. at 3:57–60.

Figure 1, reproduced below, illustrates the modem components associated with the diagnostic link mode.

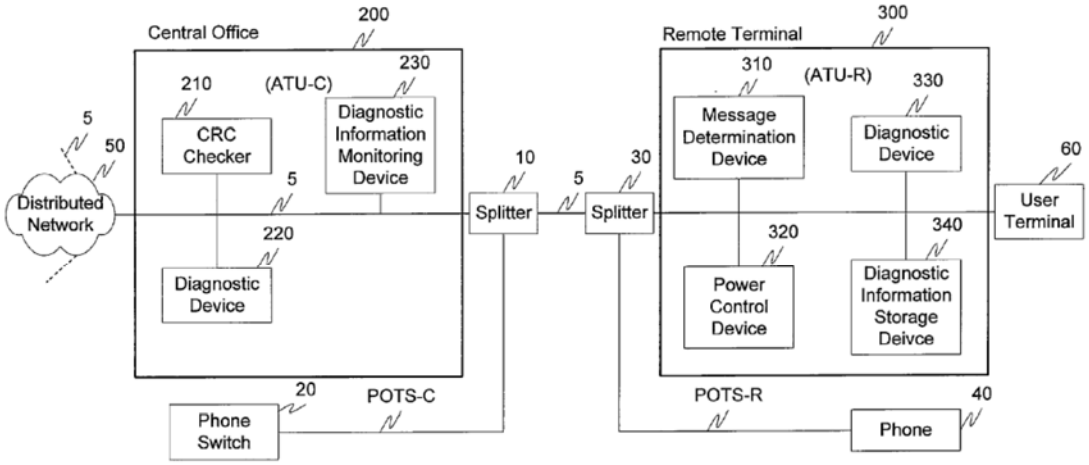

Fig. 1

Figure 1 illustrates a diagnostic mode system, where CO modem 200 and RT modem 300 are connected via link 5 to splitter 10 for a phone switch, and a splitter 30 for a phone 40. *Id.* at 4:60–5:8. CO modem 200 includes CRC checker 210, diagnostic device 220, and diagnostic information monitoring device 220. *Id.* RT modem includes message determination device 310, power control device 320, diagnostic device 330, and diagnostic information storage device 340. *Id.*

C. Illustrative Claim

Claims 1, 3, 5, 7, and 9 are independent. Claim 1 is illustrative and reproduced below (Ex. 1001, 8:47–58):

> 1. A transceiver capable of transmitting diagnostic information over a communication channel using multicarrier modulation comprising:
>
> a transmitter portion capable of transmitting a message, wherein the message comprises one or more data variables that represent the diagnostic information, wherein bits in the message are modulated onto DMT symbols using Quadrature Amplitude Modulation (QAM)

> with more than 1 bit per subchannel and wherein at least one data variable of the one or more data variables comprises an array representing power level per subchannel information.

D. Asserted Grounds of Unpatentability

The information presented in the Petition sets forth proposed grounds of unpatentability for claims 1–10 of the '956 patent as follows (Pet. 5–6):

Reference[s]	Basis	Claim(s) Challenged
Hughes-Hartogs,[1] Baran,[2] and Frenkel[3]	35 U.S.C. § 103(a)	1, 3, 5, and 7
Hughes-Hartogs, Baran, Frenkel, and Wu[4]	35 U.S.C. § 103(a)	2, 4, 6, and 8
Hughes-Hartogs, Baran, Frenkel, and TR-024[5]	35 U.S.C. § 103(a)	9
Hughes-Hartogs, Baran, Frenkel, TR-024, and TR-004[6]	35 U.S.C. § 103(a)	10

II. ANALYSIS

A. 35 U.S.C. § 315(b)

Petitioner represents, at the time of filing the Petition, that Petitioner does not own the '956 patent and that "[n]either Petitioner nor any real

[1] U.S. Patent No. 4,679,227; issued July 7, 1987 (Ex. 1004, "Hughes-Hartogs").
[2] U.S. Patent No. 4,438,511; issued Mar. 20, 1984 (Ex. 1005, "Baran").
[3] U.S. Patent No. 5,838,268; issued Nov. 17, 1998 (Ex. 1006, "Frenkel").
[4] U.S. Patent No. 6,219,378 B1; issued Apr. 17, 2001 (Ex. 1008, "Wu").
[5] ADSL Forum Technical Report TR-024, *DMT Line Code Specific MIB for Network Management Working Group* (June 1999) (Ex. 1011, "TR-024").
[6] ADSL Forum Technical Report TR-0004, *Network Migration* (December 1997) (Ex. 1010, "TR-004").

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