

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SPRINT SPECTRUM, L.P.,  
Petitioner,

v.

GENERAL ACCESS SOLUTIONS LTD.,  
Patent Owner.

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Case IPR2017-01885 (Patent 7,173,916 B2)  
Case IPR2017-01887 (Patent 6,891,810 B2)

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Before MELISSA A. HAAPALA, *Acting Vice Chief Administrative Patent Judge*, KALYAN K. DESHPANDE and DAVID M. KOHUT, *Administrative Patent Judges*.

DESHPANDE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*Inter Partes Review*  
35 U.S.C. § 318(a); 37 C.F.R. § 42.73

IPR2017-01885 (Patent 7,173,916 B2)  
IPR2017-01887 (Patent 6,891,810 B2)

## I. INTRODUCTION

### A. Background

Sprint Spectrum L.P. (“Petitioner”) filed a Petition to institute an *inter partes* review of claims 1–16 of U.S. Patent No. 7,173,916 B2 (Ex. 1001,<sup>1</sup> “the ’916 patent”) and claims 1–14 of U.S. Patent No. 6,891,810 B2 (1887 Ex. 1001, “the ’810 patent”). Paper 1 (“1885 Pet.” or “Pet.”); 1887 Paper 1 (“1887 Pet.”).

Pursuant to 35 U.S.C. § 314, we instituted *inter partes* review of the ’916 patent and the ’810 patent, on March 9, 2018, under 35 U.S.C. § 103(a), as to claims 1–16 of the ’916 patent as unpatentable over Ahy<sup>2</sup> and Csapo,<sup>3</sup> and claims 1–3, 6, 8–10, and 13 of the ’810 patent as unpatentable over Ahy and Csapo, and claims 2–7 and 9–14 of the ’810 patent as unpatentable over Ahy Csapo, and Sanders.<sup>4</sup> Paper 6 (“Dec.”); 1887 Paper 5 (“1887 Dec.”). On April 24, 2018, the Supreme Court held that a final written decision under 35 U.S.C. § 318(a) must decide the patentability of all

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<sup>1</sup> IPR2017-01885 and IPR2017-01887 include substantially the same papers and exhibits. The arguments and evidence set forth by Petitioner and Patent Owner are generally similar in IPR2017-01885 and IPR2017-01887. Accordingly, we issue a consolidated Final Written Decision, and all citations are to IPR2017-01885 unless otherwise indicated. Citations to IPR2017-01885 may be preceded by “1885” and citations to IPR2017-01887 are preceded by “1887.”

<sup>2</sup> U.S. Patent No. 7,366,133 B1, issued Apr. 29, 2008 (Ex. 1004, “Ahy”).

<sup>3</sup> U.S. Patent No. 6,411,825 B1, issued June 25, 2002 (Ex. 1006, “Csapo”).

<sup>4</sup> Sanders, Ray, “Proposed Amendments to 802.16.1pc-00/02 for a PHY Layer to Include a Bandwidth-On-Demand MAC/PHY Sublayer,” IEEE 802.16 Broadband Wireless Access Group, December 24, 1999 (1887 Ex. 1006, “Sanders”).

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claims challenged in the petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348 (2018); see also “Guidance on the Impact of SAS on AIA Trial Proceedings” (Apr. 26, 2018), <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial> (stating that if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition). Accordingly, on April 28, 2018, we issued an Order modifying our Decisions to further institute *inter partes* review of claims 1–16 of the ’916 patent as unpatentable over Klein<sup>5</sup> and a person with ordinary skill in the art, claims 1 and 8 of the ’810 patent as unpatentable over Klein and a person with ordinary skill in the art, and claims 2–7 and 9–14 of the ’810 patent as unpatentable over Klein, a person with ordinary skill in the art, and Sanders. Paper 9; 1887 Paper 8.

Patent Owner filed a Response in each proceeding ((Paper 31, “PO Resp.”); (Paper 29, “1887 PO Resp.”)), Petitioner filed a Reply in each proceeding ((Paper 41, “Pet. Reply”); (Paper 38, “1887 Pet. Reply”)), and Patent Owner filed a Sur-Reply in each proceeding ((Paper 50, “PO Sur-Reply”); (Paper 46, “1887 PO Sur-Reply”)). A consolidated oral hearing was held on December 6, 2018, and the hearing transcript has been entered in the record. Paper 56 (“Tr.”). Petitioner also filed a Motion to Exclude (Paper 45, “Pet. MTE”), to which Patent Owner filed an Opposition (Paper 51, “PO MTE Opp.”), and Petitioner filed a Reply to Patent Owner’s Opposition (Paper 53, “Pet. MTE Reply”). Patent Owner also filed a Motion to Strike (Paper 48, “PO MTS”), to which Petitioner filed an Opposition (Paper 52, “Pet. MTS Opp”).

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<sup>5</sup> Klein et al., “PHY Layer Proposal for BWA”, IEEE 802.16, January 5, 2000 (Ex. 1005, “Klein”).

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We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Pursuant to our jurisdiction under 35 U.S.C. § 6, we conclude, for the reasons discussed below, that Petitioner has shown by a preponderance of the evidence that claims 1–16 of the '916 patent and claims 1–14 of the '810 patent are unpatentable under 35 U.S.C. § 103(a).

### *B. Related Proceedings*

The parties indicate that the '916 patent and '810 patent are involved in *General Access Solutions, Ltd. v. Sprint Spectrum L.P.*, Civil Action No. 2:16-CV-465 (E.D. Tex.). Pet. 2; Paper 3, 1; 1887 Pet. 2; 1887 Paper 3, 1. IPR2017-01889 involves the same parties and is also before the Board.

### *C. The '916 Patent and the '810 Patent*

The '916 patent and the '810 patent disclose an improved air interface system for use in a fixed wireless access network that maximizes usage of the available bandwidth in a cell site. Ex. 1001, 9:9–11; 1887 Ex. 1001, 9:9–11.<sup>6</sup> The '916 patent and the '810 patent provide a radio frequency (RF) modem shelf for use in a fixed wireless access network comprising a plurality of base stations capable of bidirectional time division duplex (TDD) communication with wireless access devices disposed at a plurality of subscriber premises. *Id.* at 9:35–40.

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<sup>6</sup> The '916 patent and '810 patent include substantially similar specifications and figures. Accordingly, all citations are to the '916 patent unless otherwise specified.

The fixed wireless access network is disclosed in Figure 1 as follows:

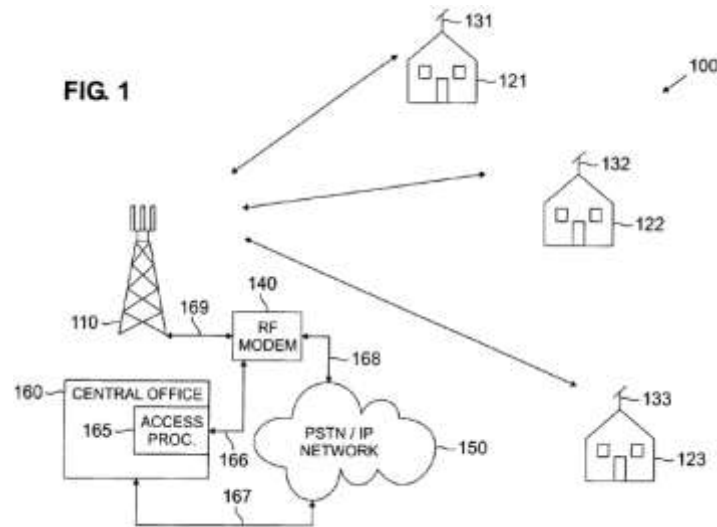


Figure 1 illustrates fixed wireless access network 100, which comprises transceiver base station 110 that transmits forward channel broadband signals to subscriber premises 121, 122, 123, and antennas 131, 132, and 133. *Id.* at 11:57–12:6. Transceiver base station 110 is coupled to RF modem shelf 140, which converts baseband data traffic received from external network 150 to RF signals transmitted in the forward channel to subscriber premises 121, 122, and 123. *Id.* at 12:15–22.

RF modem shelf 140 comprises a plurality of RF modems capable of modulating the baseband data traffic and demodulating the reverse channel RF signals. *Id.* at 12:23–26. Transceiver base stations cover a cell site area that is divided into a plurality of sectors, and each RF modem shelf is assigned to modulate and demodulate signals in a particular sector of each cell site. *Id.* at 12:27–32.

#### *D. Illustrative Claims*

Petitioner challenges claims 1–16 of the '916 patent and claims 1–14 of the '810 patent. Pet. 13–66; 1887 Pet. 13–64. Claims 1 of each patent are illustrative of the claims at issue and are reproduced below:

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