UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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GOOGLE LLC,
Petitioner,

v.

KONINKLIJKE PHILIPS N.V.,
Patent Owner.

_____

Case IPR2017-00437
Patent 6,772,114 B1

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Before KEVIN F. TURNER, ROBERT J. WEINSCHENK, and
KAMRAN JIVANI, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a)

IPR2017-00437
Patent 6,772,114 B1

I. INTRODUCTION

Google LLC ("Petitioner") filed a Petition (Paper 2, "Pet.") requesting an *inter partes* review of claims 10–16, 20, and 21 ("the challenged claims") of U.S. Patent No. 6,772,114 B1 (Ex. 1001, "the '114 patent"). Koninklijke Philips N.V. ("Patent Owner") filed a Preliminary Response (Paper 6, "Prelim. Resp.") to the Petition. On June 8, 2017, we instituted an *inter partes* review of the challenged claims of the '114 patent on the following grounds:

Claims	Statutory Basis	Applied Reference(s)
10–15 and 20	35 U.S.C. § 102(b)[1]	Tucker et al., PCT Publication No. WO 98/52187 (published Nov. 19, 1998) (Ex. 1004, "Tucker")
10–16, 20, and 21	35 U.S.C. § 103(a)	Tucker and the well-known art

Paper 10 ("Dec. on Inst."), 14.

After institution, Patent Owner filed a Response (Paper 14, "PO Resp.") to the Petition, and Petitioner filed a Reply (Paper 18, "Pet. Reply") to the Response. An oral hearing was held on February 13, 2018, and a transcript of the hearing is included in the record. Paper 33 ("Tr.").

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). For the reasons set forth below, Petitioner has not shown by a preponderance

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[1] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, which was enacted on September 16, 2011, made amendments to 35 U.S.C. §§ 102, 103. AIA § 3(b), (c). Those amendments became effective eighteen months later on March 16, 2013. *Id.* § 3(n). Because the application from which the '114 patent issued was filed before March 16, 2013, any citations herein to 35 U.S.C. §§ 102, 103 are to their pre-AIA versions.

of the evidence that claims 10–16, 20, and 21 of the '114 patent are unpatentable.

A. *Related Proceedings*

The parties indicate that the '114 patent is the subject of the following cases in the United States District Court for the District of Delaware: *Koninklijke Philips N.V. v. ASUSTeK Computer Inc.*, No. 1:15-cv-01125 (D. Del.); *Koninklijke Philips N.V. v. HTC Corp.*, No. 1:15-cv-01126 (D. Del.); *Koninklijke Philips N.V. v. Visual Land, Inc.*, No. 1:15-cv-01127 (D. Del.); *Koninklijke Philips N.V. v. Southern Telecom, Inc.*, No. 1:15-cv-01128 (D. Del.); *Koninklijke Philips N.V. v. Double Power Technology, Inc.*, No. 1:15-cv-01130 (D. Del.); *Koninklijke Philips N.V. v. Yifang USA, Inc.*, No. 1:15-cv-01131 (D. Del.); and *Koninklijke Philips N.V. v. Acer Inc.*, No. 1:15-cv-01170 (D. Del.). Pet. 9; Paper 4, 2–3.

B. *The '114 Patent*

The '114 patent relates to a transmission system that splits a signal into a low frequency portion and a high frequency portion. Ex. 1001, 1:8–13. According to the '114 patent, prior transmission systems that split a signal into spectral portions required considerable computation capacity. *Id.* at 1:52–57. The transmission system described in the '114 patent purports to improve upon those prior systems by reducing computation capacity. *Id.* at 1:60–62. Specifically, the '114 patent describes a transmitter that uses Linear Predictive Coding ("LPC") to code the high frequency portion of a signal prior to transmission. *Id.* at 2:10–12. LPC coding reduces the computation capacity of a coding device in the transmitter because LPC

coding does not require a down-sampler.[2] *Id.* at 2:12–17. In addition, the '114 patent describes a receiver that uses white noise as a source to reconstruct the high frequency portion of a received signal. *Id.* at 2:18–24. This reduces the computation capacity of the receiver. *Id.* at 2:25–28.

      C.   *Illustrative Claim*

Claims 10 and 20 are independent. Claim 10 is reproduced below.

> 10. A transmission system, comprising:
>
> a transmitter including
>
> > a splitter for splitting up a transmission signal into a low frequency signal within a low frequency range and a high frequency signal within a high frequency range, the low frequency range being lower than the high frequency range,
> >
> > a first coder for deriving a first coded signal within the first frequency range from the low frequency signal, and
> >
> > a second coder for deriving a second coded signal within the high frequency range from the high frequency signal;
>
> a receiver in electrical communication with said transmitter to receive the first coded signal and the second coded signal, said receiver including
>
> > a first decoder for sequentially applying a narrow-band decoder, an up-sampler and a low-pass filter to the first coded signal to generate a first reconstructed signal within the first frequency range, and

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[2] A down-sampler reduces the sampling rate of a signal, whereas an up-sampler increases the sampling rate of a signal. Ex. 1002 ¶¶ 52, 54. A down-sampler typically is applied by a transmitter to reduce the bandwidth of a signal before transmission, and an up-sampler typically is applied by a receiver to reconstruct the original signal. *Id.* ¶¶ 53, 55.

> a second decoder, wherein, based on the second
> coded signal, said second decoder sequentially applies a
> high-pass filter, a LPC synthesis filter and an amplifier to
> a noise signal to generate the second reconstructed signal.

Ex. 1001, 7:50–8:7.

II.   ANALYSIS

A.   *Level of Ordinary Skill in the Art*

Petitioner argues that a person of ordinary skill in the art would have had "a Master's degree or better in electrical engineering (or a related discipline) with an emphasis in signal processing and at least 3 years of engineering experience," as well as "experience with signal processing and the design of speech encoding and decoding schemes." Pet. 23 (citing Ex. 1002 ¶¶ 30–31). Patent Owner does not dispute Petitioner's definition of the level of ordinary skill in the art. *See* PO Resp. 11–12. Patent Owner also does not provide its own definition. *See id.* Based on the evidence of record, including the types of problems and solutions described in the '114 patent and the asserted prior art, we adopt Petitioner's definition of the level of ordinary skill in the art. Pet. 23; Ex. 1002 ¶¶ 30–31.

B.   *Claim Construction*

The claims of an unexpired patent are interpreted using the broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–45 (2016). "Under a broadest reasonable interpretation, words of the claim must be given their plain meaning, unless such meaning is inconsistent with the specification and prosecution history." *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1062 (Fed. Cir. 2016). An applicant may provide a definition of a term in the specification with reasonable clarity,

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