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Paper 8
Entered: August 12, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KEMET ELECTRONICS, CORP. and VISHAY AMERICAS, INC.,
Petitioner,

v.

MEC RESOURCES, LLC,
Patent Owner.

Case IPR2019-00583
Patent 6,137,390

Before KALYAN K. DESHPANDE, TREVOR M. JEFFERSON, and ROBERT J. WEINSCHENK, *Administrative Patent Judges*.

WEINSCHENK, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
35 U.S.C. § 314(a)

I. INTRODUCTION

KEMET Electronics, Corp. and Vishay Americas, Inc. (collectively, "Petitioner") filed a Petition (Paper 3, "Pet.") requesting an *inter partes* review of claims 1–20 ("the challenged claims") of U.S. Patent No. 6,137,390 (Ex. 1001, "the '390 patent"). MEC Resources, LLC ("Patent Owner") filed a Preliminary Response (Paper 7, "Prelim. Resp.") to the Petition.

An *inter partes* review may not be instituted unless "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). Further, a decision to institute may not institute on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018). After considering the evidence and arguments presented in the Petition and Preliminary Response, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one of the challenged claims of the '390 patent is unpatentable. Accordingly, we institute an *inter partes* review as to all the challenged claims of the '390 patent on all the grounds of unpatentability set forth in the Petition.

A. *Related Proceedings*

The parties indicate that the '390 patent is the subject of the following district court cases: *MEC Resources, LLC v. Vishay Americas, Inc.*, No. 3:18-cv-2770 (N.D. Tex.); and *MEC Resources, LLC v. KEMET Electronics Corp.*, No. 3:18-cv-2771 (N.D. Tex.). Pet. 70; Paper 6, 2.

B. *The '390 Patent*

The '390 patent relates to "an improved inductor with improved inductance and minimized electromagnetic induction (EMI) interference." Ex. 1001, 1:6–9. Specifically, the '390 patent explains that the improved inductor includes a conventional conducting coil that is compression-molded with a layer of a magnetic resin mixture. *Id.* at 1:59–63, 2:60–64. According to the '390 patent, "the inductance of the coil can be controlled by adjusting the magnetic permeability of the magnetic-resin mixture, and/or the thickness of the magnetic-resin layer." *Id.* at 2:1–5. Further, "[b]y using the compression molding process, the void space in the entire inductor is minimized," which "minimizes the EMI interference and magnetic leakage, and increases the inductance per unit volume." *Id.* at 2:5–8.

C. *Illustrative Claim*

Of the challenged claims, claims 1 and 11 are independent. Claim 1 is reproduced below.

> 1. An inductor with enhanced inductance comprising:
>
> (a) a magnetic core;
>
> (b) an electrically conducting coil wound about said magnetic core;
>
> (c) a magnetic resin layer compression-molded to embed at least a portion of an outer periphery of said electrically conducting coil;
>
> (d) wherein said magnetic resin layer contains a magnetic powder dispersed in a polymer resin.

Ex. 1001, 6:24–33.

D. *Evidence of Record*

Petitioner submits the following references and declaration (Pet. 1–3):

Reference or Declaration	**Exhibit No.**
Declaration of Robert W. Erickson, Ph.D. ("Erickson Declaration")	Ex. 1003
Sergio Franco, ELECTRIC CIRCUITS FUNDAMENTALS (Emily Barrosse et al. eds., 1995) ("Franco")	Ex. 1005
Amada et al., U.S. Patent No. 6,144,280 (filed Nov. 10, 1997, issued Nov. 7, 2000) ("Amada")	Ex. 1006
Shafer et al., U.S. Patent No. 6,204,744 B1 (filed Nov. 3, 1997, issued Mar. 20, 2001) ("Shafer")	Ex. 1007
Rittner et al., U.S. Patent No. 6,600,403 B1 (filed Dec. 1, 1995, issued July 29, 2003) ("Rittner")	Ex. 1008
Kaneko et al., U.S. Patent No. 5,010,313 (filed May 30, 1990, issued Apr. 23, 1991) ("Kaneko")	Ex. 1009
Butherus et al., U.S. Patent No. 3,953,251 (filed Mar. 25, 1974, issued Apr. 27, 1976) ("Butherus")	Ex. 1010
Ohkawa et al., European Publication No. 0265839 A2 (filed Oct. 22, 1987, published May 4, 1988) ("Ohkawa")	Ex. 1011

E. *Asserted Grounds of Unpatentability*

Petitioner asserts that the challenged claims are unpatentable on the following grounds (Pet. 1–2):

Claims	**Basis**	**References**
1, 3, 4, 7, 9–11, 13, 14, 17, 19, and 20	35 U.S.C. § 103(a)	Franco and Shafer
2 and 12	35 U.S.C. § 103(a)	Franco, Shafer, and Rittner
5 and 15	35 U.S.C. § 103(a)	Franco, Shafer, and Butherus
6 and 16	35 U.S.C. § 103(a)	Franco, Shafer, and Kaneko
8 and 18	35 U.S.C. § 103(a)	Franco, Shafer, and Ohkawa
1, 3, 4, 9–11, 13, 14, 19, and 20	35 U.S.C. § 103(a)	Amada and Shafer
2 and 12	35 U.S.C. § 103(a)	Amada, Shafer, and Rittner
5 and 15	35 U.S.C. § 103(a)	Amada, Shafer, and Butherus
6 and 16	35 U.S.C. § 103(a)	Amada, Shafer, and Kaneko

Claims	Basis	References
8 and 18	35 U.S.C. § 103(a)	Amada, Shafer, and Ohkawa

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

Petitioner argues that "a person of ordinary skill in the art ('POSITA') at the time of the claimed invention (1999) would have had a bachelor's degree in electrical engineering or materials science with two years of experience in designing electronic components." Pet. 7–8 (citing Ex. 1003 ¶¶ 14–17). Patent Owner argues that "one of ordinary skill in the art at the time of the priority date would have been someone with a bachelor's degree in materials science with two years of experience in materials technology involving the design of electronic components." Prelim. Resp. 6–7.

Patent Owner contends that Petitioner's definition of the level of ordinary skill in the art is insufficient because "someone with merely a bachelor's degree in electrical engineering . . . generally designs how to assemble electronic components into electronic systems -- and does not specify how to configure particular materials into electronic components." *Id.* at 7. On this record, Patent Owner's argument is not persuasive. Petitioner's definition of the level of ordinary skill in the art includes "two years of experience in designing electronic components," and, thus, is not limited to just assembling electronic components into electronic systems. Pet. 7–8 (citing Ex. 1003 ¶¶ 14–17).

Patent Owner also contends that Petitioner's declarant, Dr. Erickson, "does not possess the requisite materials science expertise, and is not able to competently testify as to what the hypothetical person of ordinary skill in the art would have known and understood at the time of the invention." Prelim. Resp. 8. On this record, Patent Owner's argument is not persuasive.

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