

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

SCRAMOGE TECHNOLOGY LTD.,
Patent Owner.

IPR2022-00351
Patent 10,622,842 B2

Before JAMESON LEE, KARL D. EASTHOM, and MICHELLE N.
WORMMEESTER, *Administrative Patent Judges*.

WORMMEESTER, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 1, 2, 5–7, 14–16, 19, and 20 of U.S. Patent No. 10,622,842 B2 (Ex. 1001, “the ’842 patent”). Scramoge Technology Ltd. (“Patent Owner”) filed a Preliminary Response (Paper 6). With our authorization (*see* Paper 7), Petitioner filed a preliminary Reply (Paper 8) to Patent Owner’s Preliminary Response, and Patent Owner filed a preliminary Sur-reply (Paper 9) to Petitioner’s preliminary Reply. Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of all the challenged claims based on all the grounds presented in the Petition. Paper 10 (“Inst. Dec.”). Thereafter, Patent Owner filed a Response (Paper 17, “PO Resp.”) to the Petition, Petitioner filed a Reply (Paper 22, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 23, “PO Sur-reply”). On May 3, 2023, we conducted an oral hearing. A copy of the transcript (Paper 31, “Tr.”) is in the record.

We have jurisdiction under 35 U.S.C. § 6(b). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 2, 5–7, 14–16, 19, and 20 of the ’842 patent are unpatentable. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a).

II. BACKGROUND

A. *Related Proceedings*

The parties identify one federal district court case, *Scramoge Technology Limited v. Apple Inc.*, No. 5:22-cv-03041 (N.D. Cal.). Paper 8, 2; Paper 27, 2–3 (Patent Owner’s Second Amended Mandatory Notices);

Ex. 1021, 10 (PACER docket report). Patent Owner also identifies several *inter partes* review proceedings. Paper 27, 2.

B. The '842 Patent

The '842 patent describes wireless power receivers. Ex. 1001, 1:21–22. In one embodiment, the wireless power receiver includes a shielding unit to prevent the electronic appliance in which the wireless power receiver is installed from malfunctioning. *Id.* at 2:1–3, 2:41–45, 3:4–6; *see also id.* at 1:55–57 (“[A] magnetic field generated from the receiving coil exerts an influence on an inside of an electronic appliance, so that the electronic appliance malfunctions.”). The electronic appliance may be a portable device. *Id.* at 1:39–43.

To illustrate, Figure 10 of the '842 patent is reproduced below.

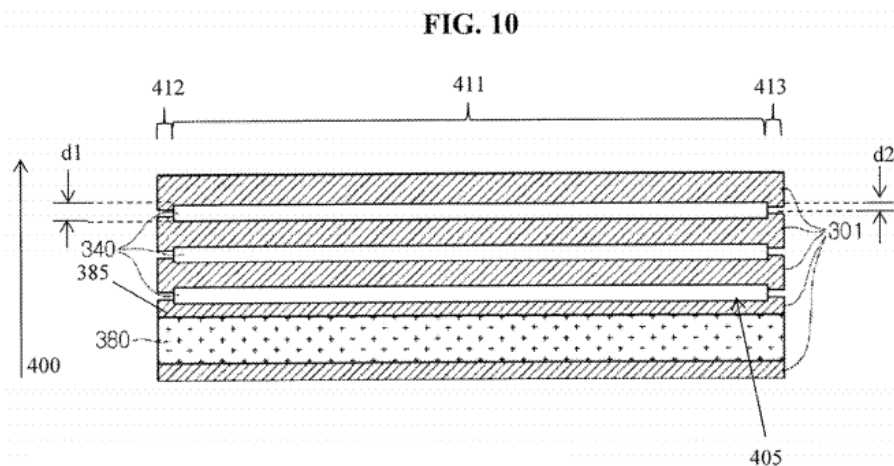


Figure 10 shows a wireless power receiver, which includes printed circuit board 301, short-range communication antenna 340, a receiving coil (not shown), and shielding unit 380. Ex. 1001, 3:4–6, 8:21–23, 8:44–50. Printed circuit board 301 includes multiple layers where each layer is spaced apart

from adjacent layers. *Id.* at 8:44–46. Short-range communication antenna 340 or the receiving coil is disposed in printed circuit board 301. *Id.* at 8:46–49. Shielding unit 380 also is disposed in printed circuit board 301. *Id.* at 8:49–50. In particular, shielding unit 380 is disposed under short-range communication antenna 340 or the receiving coil. *Id.* at 8:51–52. Short-range communication antenna 340, the receiving coil, and shielding unit 380 are disposed between the layers of printed circuit board 301. *Id.* at 8:52–56.

The wireless power receiver, as shown in Figure 10, can be divided into two regions. Ex. 1001, 9:6–12. First region 411, includes portions of layers in printed circuit board 301 that overlap the receiving coil in vertical direction 400, which is perpendicular to upper surface 385 of shielding unit 380. *Id.* at 9:6–10. Second region 412, 413 includes portions of the same layers that do not overlap the receiving coil in vertical direction 400. *Id.* at 9:10–12. First gap or distance d_1 , which is measured in vertical direction 400 between layers in first region 411, is greater than second gap or distance d_2 , which is measured in vertical direction 400 between layers in second region 412, 413. *Id.* at 9:12–16.

The '842 patent explains that, “when the shielding unit 380 is inserted into the printed circuit board 301, the entire thickness of the wireless power receiver . . . may be reduced,” and “a separate procedure of attaching the shielding unit 380 is not necessary, so the manufacturing process may be simplified.” Ex. 1001, 8:66–9:6.

C. Illustrative Claim

As noted above, Petitioner challenges claims 1, 2, 5–7, 14–16, 19, and 20 of the '842 patent, where claims 1 and 19 are independent. Claim 1, reproduced below, is illustrative of the claims under challenge.

1. A wireless power receiver, comprising:
 - a shielding unit;
 - a first layer on the shielding unit;
 - a wireless power receiving coil on the first layer;
 - a second layer on the wireless power receiving coil;
 - a first region in which at least one of the first layer and the second layer overlaps the wireless power receiving coil in a vertical direction perpendicular to an upper surface of the shielding unit; and
 - a second region in which at least one of the first layer and the second layer does not overlap the wireless power receiving coil in the vertical direction,wherein a first distance, measured in the vertical direction, between the first layer and the second layer in the first region is greater than a second distance, measured in the vertical direction, between the first layer and the second layer in the second region.

D. Asserted Grounds of Unpatentability

Petitioner challenges claims 1, 2, 5–7, 14–16, 19, and 20 of the '842 patent on the following two grounds. Pet. 15–54. We instituted *inter partes* review. Inst. Dec. 27.

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