

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, INC.,
Petitioner,

v.

CARUCEL INVESTMENTS, L.P.,
Patent Owner.

IPR2019-01440
Patent 8,463,177 B2

Before THOMAS L. GIANNETTI, DANIEL J. GALLIGAN, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

KORNICZKY, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Mercedes-Benz USA, LLC (“Petitioner”) filed a Petition for an *inter partes* review of claims 16, 21–28, 30, 31, 47–49, and 51–53 of U.S. Patent No. 8,463,177 B2 (Ex. 1001, “the ’177 patent”). Paper 2 (“Pet.”). Carucel Investments, L.P. (“Patent Owner”) did not file a Preliminary Response.

Under 37 C.F.R. § 42.4(a), we have authority to determine whether to institute an *inter partes* review. Upon considering the Petition and the evidence of record, we determine that Petitioner has demonstrated a reasonable likelihood of prevailing in showing the unpatentability of at least one of the challenged claims. For the reasons described below, we institute an *inter partes* review of claims 16, 21–28, 30, 31, 47–49, and 51–53 of the ’177 patent with respect to all grounds in the Petition.

II. BACKGROUND

A. *Related Proceedings*

According to Petitioner and Patent Owner, the ’177 patent is involved in the following pending district court litigations:

(1) *Carucel Investments LP v. Fiat Chrysler Automobiles US LLC et al.*, Case No. 3-18-cv-03331 (N.D. Tex., filed Dec. 18, 2018),

(2) *Carucel Investments LP v. General Motors Company*, Case No. 3-18-cv-03332 (N.D. Tex., filed Dec. 18, 2018),

(3) *Carucel Investments LP v. Volkswagen Group of America Inc.*, Case No. 3-18-cv-03333 (N.D. Tex., filed Dec. 18, 2018), and

(4) *Carucel Investments LP v. Mercedes-Benz USA LLC et al.*, Case No. 3-18-cv-03334 (N.D. Tex., filed Dec. 18, 2018). Pet. 72–73; Paper 5, 1.

Petitioner and Patent Owner state that the '177 patent is also involved in IPR2019-01104. Pet. 72; Paper 5, 1. Petitioner and Patent Owner also state that the '177 patent is related to certain patents involved in *inter partes* reviews:

- (1) U.S. Patent No. 7,221,904: IPR2019-01298, -01101, -01573, -01635;
- (2) U.S. Patent No. 7,848,701: IPR2019-01102, -01442;
- (3) U.S. Patent No. 7,979,023: IPR2019-01079, -01103, -01404; and
- (4) U.S. Patent No. 8,718,543: IPR2019-01105, -01106, -01441.

See Pet. 71–72; Paper 5, 1–2.

B. Real Parties-in-Interest

Petitioner identifies Daimler AG, Daimler North America Corporation, Mercedes-Benz U.S. International, Inc., and itself as the real parties-in-interest. Pet. 71. Patent Owner identifies itself as the real party-in-interest. Paper 5, 1.

C. The '177 Patent (Ex. 1001)

The title of the '177 patent is “Mobile Communication System with Moving Base Station.” Ex. 1001, code (54). The '177 patent relates to cellular telephone systems and states that a “problem with existing mobile telephone systems is the considerable time required in handoffs,” which is the process by which a mobile unit is transferred from one cell site to another as it moves through a network. *Id.* at 1:39–47, 1:58–59. According to the '177 patent, in urban areas, the number of cells is increased and cell size is decreased to accommodate more users. *Id.* at 1:59–2:2. The '177

patent states that a drawback of reducing cell size is that mobile units cross cell boundaries more often, requiring more handoffs. *Id.* at 2:2–6.

To address this purported problem, the '177 patent proposes a mobile communication system that employs moving base stations, which move in the direction of traffic along a roadway. *Id.* at 2:65–3:6. The moving base stations are interposed between mobile units and fixed base stations. *Id.* The '177 patent states that, “because of movement of the base station in the same direction as the traveling mobile unit, the number of handoffs is greatly reduced.” *Id.* at 5:17–19.

D. Illustrative Claim

As mentioned above, the challenged claims are claims 16, 21–28, 30, 31, 47–49, and 51–53. Claims 16 and 47 are the independent claims among the challenged claims, and are reproduced below:

16. A method comprising:

receiving fixed port signals from a fixed port through the plurality of spatially separated antennas moving relative to Earth; and

transmitting, to a mobile device, radio frequency signals corresponding to the received fixed port signals.

Ex. 1001, 12:18–23.

47. A method comprising:

receiving a first radio frequency signal through a plurality of spatially separated antennas moving relative to Earth and

transmitting, to a mobile device moving relative to Earth, a second radio frequency signal corresponding to the received first radio signal.

Ex. 1001, 14:9–15.

E. References

Petitioner relies on the following references:

1. U.S. Patent No. 5,276,686, issued January 4, 1994 (Ex. 1003, “Ito”).
2. U.S. Patent No. 5,101,501, issued March 31, 1992 (Ex. 1004, “Gilhousen ’501”).
3. U.S. Patent No. 5,519,761, issued May 21, 1996 (Ex. 1005, “Gilhousen ’761”).
4. U.S. Patent No. 5,652,765, issued July 29, 1997 (Ex. 1031, “Adachi”).
5. An article titled, “A Comparison of Specific Space Diversity Techniques for Reduction of Fast Fading in UHF Mobile Radio Systems,” IEEE Transactions On Vehicular Technology, Vol. VT-20, No. 4, Jakes et al. (November 1971) (Ex. 1032, “Jakes”).
6. U.S. Patent No. 5,614,914, issued March 25, 1997 (Ex. 1033, “Bolgiano”).

Petitioner also relies on testimony from Jeffrey Fischer (Ex. 1008, “Fischer Decl.”).

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