

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

T-MOBILE US, INC., T-MOBILE USA, INC.,
TELECOMMUNICATION SYSTEMS, INC., ERICSSON INC., and
TELEFONAKTIEBOLAGET LM ERICSSON,
Petitioner,

v.

TRACBEAM, LLC,
Patent Owner.

Case IPR2015-01708
Patent 7,525,484 B2

Before KEVIN F. TURNER, DAVID C. MCKONE, JAMES A. TARTAL,
and BARBARA A. PARVIS, *Administrative Patent Judges*.

MCKONE, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. *Background*

T-Mobile US, Inc., T-Mobile USA, Inc., TeleCommunication Systems, Inc., Ericsson Inc., and Telefonaktiebolaget LM Ericsson (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) to institute an *inter partes* review of claims 1, 2, 6, 24, 25, 51, 71, and 72 of U.S. Patent No. 7,525,484 B2 (Ex. 1002, “the ’484 patent”). TracBeam, LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). The parties reached agreement to remove claims 2, 6, 24, 71, and 72 from the proceeding. Paper 7 (Joint Motion to Limit Petition); Paper 8 (Joint Submission of Narrowing Agreement). We accepted that agreement and limited this proceeding to claims 1, 25, and 51. Paper 9.

Upon consideration of the Petition and Preliminary Response, we conclude, under 35 U.S.C. § 314(a), that Petitioner has established a reasonable likelihood that it would prevail with respect to claims 1 and 51, but not as to claim 25. Accordingly, we institute an *inter partes* review of claims 1 and 51 of the ’484 patent.

B. *Related Matters*

The ’484 patent is the subject of several lawsuits filed in the United States District Court for the Eastern District of Texas. Pet. 2; Paper 5, 1–2.

The ’484 patent also is the subject of *Apple Inc. v. TracBeam, LLC*, Case IPR2015-01696 (PTAB); *Apple Inc. v. TracBeam, LLC*, Case IPR2015-01697 (PTAB); and *T-Mobile US, Inc. v. TracBeam, LLC*, Case IPR2015-01711 (PTAB). Pet. 1; Paper 5, 3.

IPR2015-01708
Patent 7,525,484 B2

Various related patents also are the subjects of these and other proceedings before the district courts and the Board. Paper 5, 1–3.

C. References Relied Upon

Petitioner relies upon the following prior art references:

Ex. 1008	Loomis	US 5,936,572	Aug. 10, 1999
Ex. 1009	Wortham	US 6,748,226 B1	June 8, 2004

D. The Asserted Grounds

Petitioner contends that claims 1, 25, and 51 would have been obvious, under 35 U.S.C. § 103, over Loomis and Wortham. Pet. 6.

E. The '484 Patent

The '484 patent describes location systems for wireless telecommunication infrastructures. Ex. 1002, Abstract. According to the '484 patent, the location techniques are useful for 911 emergency calls, vehicle tracking and routing, and location of people and animals. *Id.* at Abstract, 12:11–17.

Figure 4, reproduced below, illustrates an embodiment:

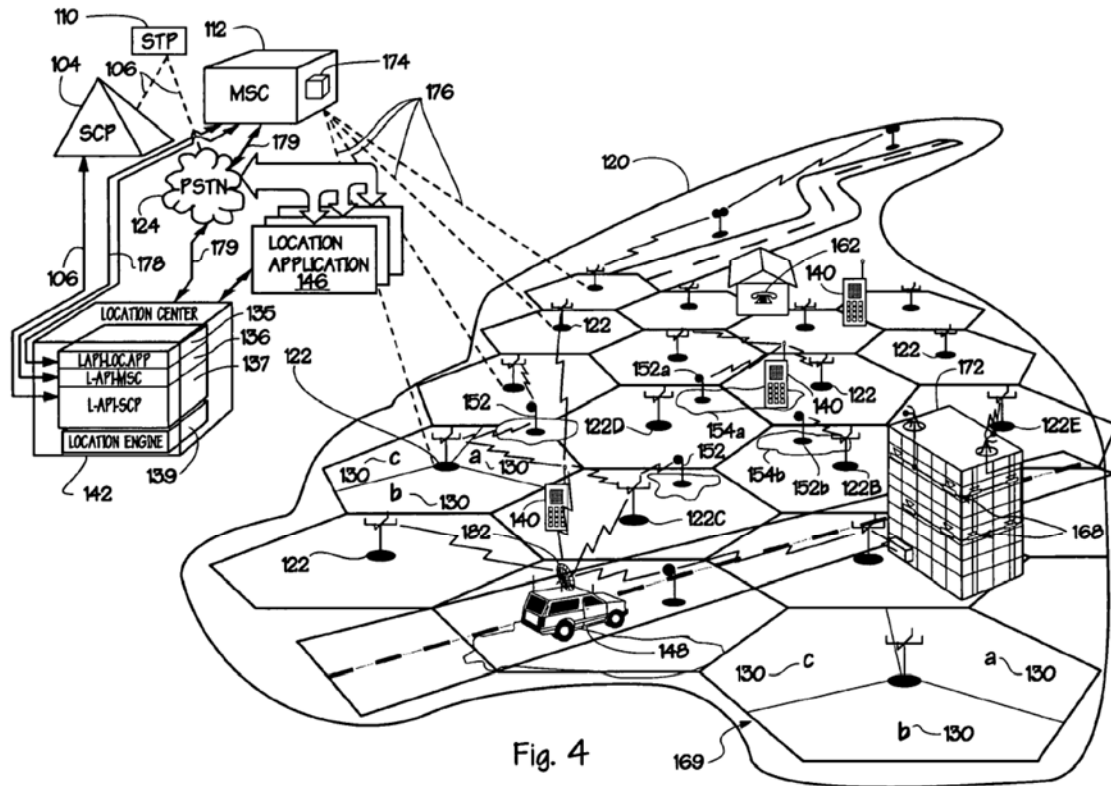


Fig. 4

Figure 4 is an overall view of a wireless radio location network architecture. *Id.* at 21:66–67. The network includes a plurality of mobile stations (“MS”) 140, a mobile switching center (“MSC”) 112, and a plurality of wireless cell sites forming radio coverage area 120, each site including a fixed-location base station 122 for voice and data communication with MSs 140. *Id.* at 24:41–57. The network also includes location base stations (“LBS”) 152 with wireless location enablement, e.g., with transponders used primarily in communicating MS location related information to location center 142 (via base stations 122 and MSC 112). *Id.* at 24:57–64. LBSs can be placed, for example, in dense urban areas, in remote areas, along highways, or wherever more location precision is required than can be obtained using conventional wireless infrastructure components. *Id.* at 28:29–38.

Location center 142 determines a location of a target MS 140. *Id.* at 25:8–10, 37:43–46. The system uses a plurality of techniques for locating MSs, including two-way time of arrival (“TOA”), time difference of arrival (“TDOA”), and Global Positioning System (“GPS”). *Id.* at Abstract, 9:5–23, 11:7–55, 66:45–50. To determine a location for a MS, the system computes a first order model (also referred to as a hypothesis or estimate) for one or more of the locating techniques, computes a confidence value for each model indicating the likelihood that the model is correct, performs additional computations on the models to enhance the estimates, and computes from the models a “most likely” location for the MS. *Id.* at 12:62–13:20, 38:9–31. The most likely location can be composite of the estimates. *Id.* at 13:22–30, 66:45–50.

Location estimates can be provided to location requesting applications, such as 911 emergency, police and fire departments, taxi services, etc. *Id.* at 8:52–60, 13:20–22, 38:32–34.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method for obtaining requested location information regarding a first of a plurality of terrestrial wireless mobile stations using location information from location estimating sources, and to provide the requested location information to an application using wireless location, the location estimating sources, including a first location estimating source and a second location estimating source, the first and second location estimating sources providing information regarding locations of various of the mobile wireless stations, the method comprising the steps of:

first receiving a location request regarding the first of said wireless mobile station from the application, said

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