

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SHOJI TANAKA
and TOSHIYA TSUJI

Appeal No. 96-1279
Application 07/870,982¹

HEARD: October 17, 1997

Before HAIRSTON, BARRETT, and FLEMING, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed Monday, April 20, 1992, entitled "Cellular Mobile Communication System Wherein Service Area Is Reduced In Response To Control Signal Contamination," which claims the priority benefit under 35 U.S.C. § 119 of Japanese Application 3-87080, filed April 19, 1991.

Appeal No. 96-1279
Application 07/870,982

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1, 2, and 5, all of the claims pending in the application. Claims 3 and 4 have been cancelled. Claim 6 is indicated to be allowable over the prior art of record (Supp. Examiner's Answer, Paper No. 18, page 2). In the Examiner's Answer the examiner withdrew the rejection from the Final Rejection and entered new grounds of rejection under 35 U.S.C. §§ 102(b) and 112, second paragraph. Appellants amendment filed June 14, 1995, (Paper No. 17) has been entered and is considered to overcome the § 112 rejection. We reverse the remaining anticipation rejection.

The invention is in the field of cellular mobile communications system and is directed to a method and apparatus for reducing the size of the service area of a base station in response to detection of control channel signal contamination. Each base station has one control channel via which mobile units requests service to the base station. When a mobile station requests a call, it scans all the control channels and selects the strongest control channel. Near a cell boundary a mobile unit may be prevented from sending a call request to and/or receiving a control channel signal from the base station due to signal contamination or deterioration by noise, free-space propagation losses, fading, etc. In the invention, this

Appeal No. 96-1279
Application 07/870,982

contamination is detected as an indicator of inhibited communication between the mobile unit and a transceiver of the base station of the closest cell. The transmission power of the transceiver of the closest cell is reduced to the point wherein communication between the mobile unit and a cell adjacent the closest one is enabled.

Claim 1 is reproduced below.

1. A method of controlling service area size of a given cell in response to control channel signal contamination being detected at a base station of said given cell in a cellular mobile communications system, comprising the steps of:

sensing the control channel signal contamination which inhibits communication between a mobile unit and a transceiver of the base station;

detecting the contaminated control channel signal level; and

reducing the transmission power of the transceiver of the base station, in response to the contaminated control channel signal level, to a level whereat communication between a base station of a cell adjacent to said given cell and the mobile unit is enabled.

The examiner relies on the following reference:

Kojima et al. (Kojima) 4,435,840 March 6, 1984

Claims 1, 2, and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kojima. We refer to the Examiner's Answer (Paper No. 14) and the Supplemental Examiner's Answer (Paper No. 18) for a statement of the Examiner's position.

Appeal No. 96-1279
Application 07/870,982

OPINION

"Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention." RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

Appellants argue that Kojima does not: (1) sense the control channel signal contamination; (2) detect the contaminated control channel signal level; (3) respond to the control channel signal contamination level detected (Reply Brief, pages 2-4).

The arguments are summarized as follows (Reply Brief, page 4):

Kojima only uses the control channel for conventional control functions. Thus, Kojima does not respond to contamination in the control channel or sense such contamination. Although Kojima does teach reducing the transmission power of a base station, this reduction occurs in the congestion mode in response to congestion at one base station and excess capacity at a neighboring base station. Kojima never teaches or suggests adjusting the transmission power in response to a contaminated control channel signal level.

We are in full agreement with appellants' arguments.

The examiner errs in finding that "the traffic adjusting signal . . . is same as the control channel signal contamination" (Examiner's Answer, page 3; Supp. Examiner's Answer, pages 1-2). "Traffic" is "the number of channels currently used in the radio communication for each base station" (col. 1, lines 59-60).

Appeal No. 96-1279
Application 07/870,982

Traffic is not signal contamination of the control channel (or the voice channels). The examiner ignores the limitations and arguments about "control channel." Kojima measures traffic and does not sense "control channel signal contamination which inhibits communication," as claimed. Because Kojima does not "sense" control channel signal contamination, it cannot "detect" the contaminated control channel signal level, as claimed.

Kojima determines whether the traffic level exceeds a threshold signal TH level and produces a traffic adjusting signal TA to control transmitter output power (figure 3; col. 5, lines 17-58). Kojima responds to traffic volume and does not "respond to" the contaminated control channel signal level, as claimed.

Accordingly, the examiner erred in finding claims 1, 2, and 5 to be anticipated by Kojima.

The rejection of claims 1, 2, and 5 is reversed.

REVERSED

KENNETH W. HAIRSTON)
Administrative Patent Judge)
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Appeal No. 96-1279
Application 07/870,982

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Appeal No. 96-1279
Application 07/870,982

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