



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 12/986,831      | 01/07/2011  | Zhifei Fan           | 100695              | 7195             |

23696 7590 12/01/2016  
QUALCOMM INCORPORATED  
5775 MOREHOUSE DR.  
SAN DIEGO, CA 92121

|          |
|----------|
| EXAMINER |
|----------|

BANTHRONGSACK, JEFF

|          |              |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

2462

|                   |               |
|-------------------|---------------|
| NOTIFICATION DATE | DELIVERY MODE |
|-------------------|---------------|

12/01/2016

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* ZHIFEI FAN, RENQIU WANG, and HAO XU

---

Appeal 2015-006042  
Application 12/986,831  
Technology Center 2400

---

Before CARLA M. KRIVAK, ADAM J. PYONIN, and  
KARA L. SZPONDOWSKI, *Administrative Patent Judges*.

SZPONDOWSKI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1–27. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

STATEMENT OF THE CASE

Appellants' invention is directed to blind uplink interference cancellation in wireless networking. Spec. ¶ 7. Claim 1, reproduced below, with the disputed limitation in *italics*, is illustrative of the claimed subject matter:

1. A method of wireless communication, comprising:

obtaining semi-static information for at least one neighboring cell of a wireless network;

estimating a noise level in each of said at least one neighboring cell; and for each of said at least one neighboring cell:

*performing discontinuous transmission (DTX) detection to identify at least one interfering user equipment (UE); and*

cancelling interference attributable to said at least one interfering UE.

#### REJECTIONS

Claims 1, 10, 16, and 22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cho et al. (US 2008/0008113 A1; published Jan. 10, 2008) (“Cho”) and Qvarfordt et al. (US 2010/0061356 A1; published Mar. 11, 2010) (“Qvarfordt”).

Claims 2, 11, 17, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cho, Qvarfordt, and Billon (US 6,490,442 B1; issued Dec. 3, 2002).

Claims 3, 5, 6, 12, 14, 15, 18, 20, 21, 24, 26, and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cho, Qvarfordt, and Chang et al. (US 2007/0032199 A1; published Feb. 8, 2007) (“Chang”).

Claims 4, 7–9, 13, 19, and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Cho, Qvarfordt, Chang, and Demers et al. (US 2003/0003906 A1; published Jan. 2, 2003) (“Demers”).

## ANALYSIS

*Dispositive Issue:* Did the Examiner err in finding the combination of Cho and Qvarfordt teaches or suggests “performing discontinuous transmission (DTX) detection to identify at least one interfering user equipment (UE),” as recited in independent claim 1 and commensurately recited in independent claims 10, 16, and 22?

Appellants contend that applying DTX to reduce interference, as taught by the cited references, is not the same as “performing **DTX detection** to identify at least one interfering UE,” as claimed. App. Br. 6; *see also* App. Br. 7. Rather, Appellants contend the recited “DTX detection is determining whether a particular UE is in DTX mode or is actually transmitting.” App. Br. 6, citing Spec. ¶ 110. Appellants further argue in Qvarfordt, “the interfering UE is identified as an interfering UE *before* DTX transmission is used.” Reply Br. 4.

We are persuaded by Appellants’ arguments. The Examiner relies on paragraphs 31 and 68 of Qvarfordt to teach the disputed limitation. Final Act. 7; Ans. 21. Specifically, the Examiner finds Qvarfordt teaches “applying DTX to reduce interference when UE is in the cell” and that “it [is] implied that the interference of UE is identified before using DTX mode to reduce interference.” Ans. 21, emphasis omitted. However, the Examiner does not direct us to any portion of Qvarfordt that describes performing DTX **detection** to identify at least one interfering UE. Based on this record, we agree with Appellants that applying or using DTX does not teach or suggest DTX **detection** to identify at least one interfering user equipment, as claimed.

Appeal 2015-006042  
Application 12/986,831

Because we agree with at least one of the arguments advanced by Appellants, we do not reach the merits of Appellants' other arguments. Accordingly, we do not sustain the Examiner's 35 U.S.C. § 103(a) rejections of independent claims 1, 10, 16, and 22. For the same reasons, we do not sustain the Examiner's 35 U.S.C. § 103(a) rejections of dependent claims 2–9, 11–15, 17–21, and 23–27, dependent from claims 1, 10, 16, and 22.

#### DECISION

For the above reasons, the Examiner's rejection of claims 1–27 is reversed.

REVERSED