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. |
|---|---|---|---|---|
| 14/751,227 | 06/26/2015 | Abu T Sayem | MM01413 | 7795 |

138858 7590 09/24/2020

Motorola/
McKinney Phillips LLC
1440 W. Taylor St.
Suite 749
Chicago, IL 60607

| EXAMINER | |
|---|---|
| ABELSON, RONALD B | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2476 | |

| NOTIFICATION DATE | DELIVERY MODE |
|---|---|
| 09/24/2020 | 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):

docketing.mobility@motorola.com
pipp@mckinneyphillips.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* ABU T. SAYEM, MOHAMMED ABDUL-GAFFOOR, MINH H. DUONG, UGUR OLGUN, and ROBERT E. SLATER

---

Appeal 2019-003859
Application 14/751,227
Technology Center 2400

---

Before JASON V. MORGAN, IRVIN E. BRANCH, and PHILLIP A. BENNETT, *Administrative Patent Judges*.

MORGAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Introduction

Pursuant to 35 U.S.C. § 134(a), Appellant[1] appeals from the Examiner's decision to reject claims 1–15. Claims 16–20 are canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM IN PART.

---

[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as MOTOROLA MOBILITY LLC. Appeal Br. 2.

Summary of the Disclosure

Appellant's claimed subject matter relates to "providing high-throughput and reliable operation in WiFi and cellular environments" by employing "a switched or multiplexed cellular band antenna to support WiFi MIMO for mobile handheld operation." Abstract.

Exemplary Claims
(Key Limitations Emphasized and Bracketing Added)

1. A portable electronic communication device comprising:

a housing;

a WiFi transceiver;

an LTE (long term evolution) transceiver; and

a plurality of antennas, including a first antenna operating for WiFi at 2400 MHz, and a second antenna supporting at least cellular bands between 2300 MHz and 2690 MHz, the [1] *second antenna being the sole antenna supporting cellular bands* between 2300 MHz and 2690 MHz and [2] *also being linkable to the WiFi transceiver to provide MIMO (multiple input, multiple output) operation*.

2. The portable electronic communication device in accordance with claim 1, [3] *wherein the device housing is metallic and the first and second antennas are formed as parts of the device housing*.

Appeal Br. 10 (Claims Appendix).

The Examiner's rejections and cited references

The Examiner rejects claims 1–15 under 35 U.S.C. § 103 as being unpatentable over Cai et al. (US 2013/0065533 A1; published Mar. 14, 2013) ("Cai") and Clevorn et al. (US 2014/0349584 A1; published Nov. 27, 2014) ("Clevorn"). Final Act. 2–5.

ADOPTION OF EXAMINER'S FINDINGS AND CONCLUSIONS

With respect to claim 1, we agree with and adopt as our own the Examiner's findings as set forth in the Answer and in the Action from which this appeal was taken, and we concur with the Examiner's conclusions. We have considered Appellant's arguments, but do not find them persuasive of error. We provide the following explanation for emphasis.

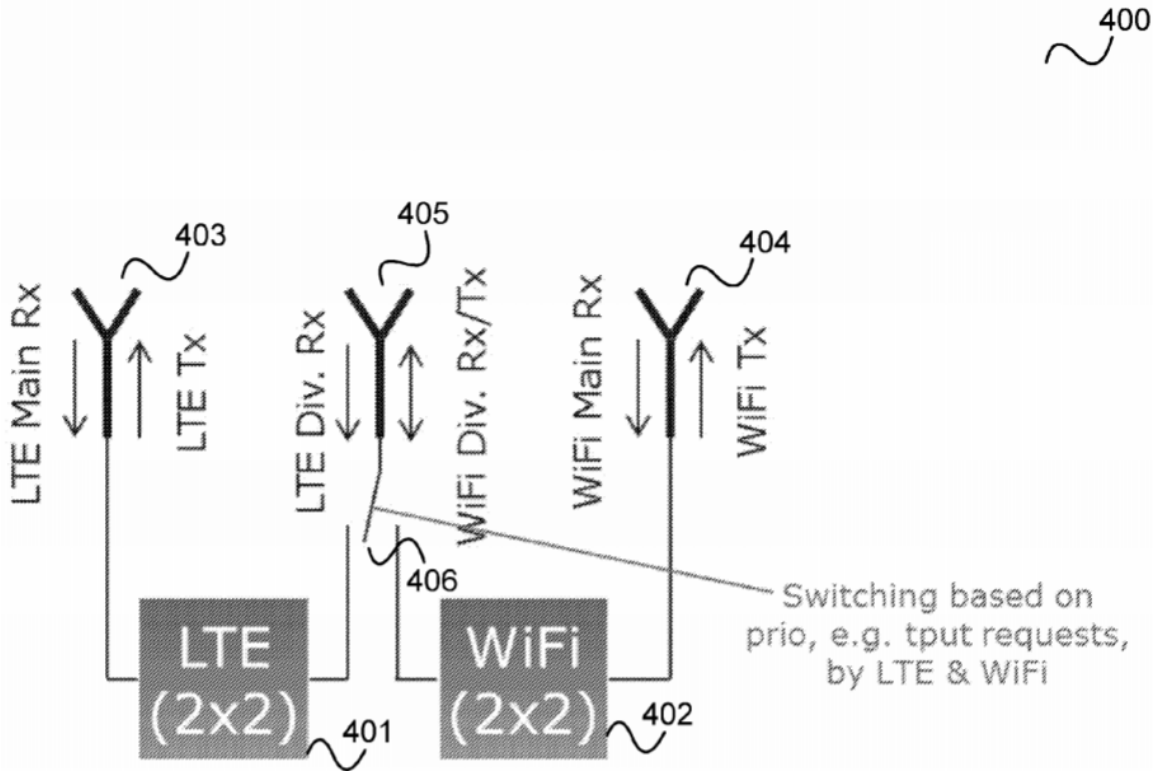
ANALYSIS

Claims 1, 3–9, and 11–15

In rejecting claim 1 as obvious, the Examiner finds that Cai's teaching of *one* or more antennas used by a Long Term Evolution (LTE) device teaches or suggests a [1] "second antenna being the sole antenna supporting cellular bands." Final Act. 3 (citing Cai ¶ 20, Fig. 1). The Examiner acknowledges that Cai "is silent on the system using" both a first antenna and the second antenna "simultaneously [for] WiFi to support" multiple input, multiple output (MIMO) operations. *Id.* Thus, the Examiner relies on how Clevorn's WiFi transceiver 103 uses shared antenna 104—which is otherwise used by a LTE transceiver 102—for MIMO to teach or suggest the second antenna [2] "also being linkable to the WiFi transceiver to provide MIMO (multiple input, multiple output) operation." *Id.* (citing Clevorn ¶¶ 85, 87, Figs. 1, 4). The Examiner concludes it would have been obvious to modify Cai using the teachings and suggestions of Clevorn because "using two antennas simultaneously for WiFi would allow for increased bandwidth for WiFi applications." *Id.* at 4; *see* Ans. 7–8.

Appellant contends the Examiner erred because "[i]n Clevorn the shared antenna is exactly that – ***shared***. It is ***not*** the sole antenna supporting

cellular communications." Appeal Br. 8. Appellant's argument accords with Clevorn, as illustrated in Clevorn's Figure 4, which is reproduced below.




Clevorn's Figure 4 illustrates first antenna 403, which is permanently assigned to LTE transceiver 401, second antenna 405—which through switch 406 can be switched between LTE transceiver 401 and WiFi transceiver 402—and third antenna 404, which is permanently assigned to WiFi transceiver 402. Clevorn ¶ 87.

We agree with Appellant that Clevorn's second antenna 405 is not the *sole* antenna supporting cellular communications; Clevorn's first antenna 403 *also* supports cellular communications. But Appellant's characterization of Clevorn, though accurate, is not persuasive of Examiner error.

Specifically, the Examiner persuasively relies on Cai, not Clevorn, to teach or suggest an electronic communications device with a second antenna being the sole antenna supporting cellular bands. Final Act. 3. Appellant

does not dispute this finding. Nor does Appellant show error in the Examiner's conclusion that it would have been obvious to modify Cai, using Clevorn's teachings and suggestions, to enable Cai's second antenna to be switched from supporting cellular bands to supporting WiFi MIMO operations. *Id.* at 3–4. This would, as the Examiner correctly notes, increase bandwidth for WiFi operations. *Id.* at 4. Although it seems enabling WiFi MIMO operations when using a communication device modified in this manner would require disabling cellular communications, Appellant fails to contend that such a trade-off would have made the proposed combination non-obvious. Absent any arguments or analysis regarding this trade-off, we agree with the Examiner that the combination of Cai and Clevorn teaches or suggests disputed recitations [1] and [2].

Accordingly, we sustain the Examiner's 35 U.S.C. § 103 rejection of claim 1, and claims 3–9 and 11–15, which Appellant does not argue separately. Appeal Br. 9.

Claims 2 and 10

Appellant argues that the Examiner erred in rejecting claim 2 as obvious because the Examiner fails to show that the combination of Cai and Clevorn teaches or suggests [3] "wherein the device housing is metallic and the first and second antennas are formed as parts of the device housing." Appeal Br. 8. Appellant, noting multiple requests for the Examiner to address the recitation, contends there is "no way of knowing whether the Office's behavior in this regard reflects a lack of a position on the claims, an intention to allow the claims, or simply a recurring failure [to] notice the claims" despite Appellant's repeated reminders. Reply Br. 2.

Appellant's argument with respect to claim 2 is arguably waived because Appellant fails to separately argue claim 2 under its own heading. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2017). But the Examiner fails to make a prima facie rejection of claim 2, skipping over claim 2 (and related claim 10) entirely in the body of the rejection and in the Answer. Final Act. 2–6; Ans. 4–8. We decline to elevate form over substance here. Therefore, we agree with Appellant that the Examiner's findings do not show that Cai or Clevorn teach or suggest disputed recitation [3].

Accordingly, we decline to sustain the Examiner's 35 U.S.C. § 103 rejection of claim 2, and claim 10, which contains a similar recitation.

CONCLUSION

| Claims Rejected | 35 U.S.C. § | References | Affirmed | Reversed |
|---|---|---|---|---|
| 1–15 | 103 | Cai, Clevorn | 1, 3–9, 11–15 | 2, 10 |

TIME PERIOD FOR RESPONSE

No time period for taking subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED IN PART