

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG ELECTRONICS AMERICA, INC., and APPLE INC.,
Petitioner

v.

SMART MOBILE TECHNOLOGIES LLC,
Patent Owner.

IPR2022-01248
Patent 8,842,653 B1

Before HYUN J. JUNG, GARTH D. BAER, and
AARON W. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
Granting Petitioner's Motion to Submit Supplemental Information
35 U.S.C. § 318(a)

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I. INTRODUCTION

A. *Background and Summary*

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Apple Inc. (collectively, “Petitioner”) filed a Petition (Paper 3, “Pet.”) requesting institution of an *inter partes* review of claims 1–21 and 23–30 of U.S. Patent No. 8,842,653 B1 (Ex. 1001, “the ’653 patent”). Smart Mobile Technologies LLC (“Patent Owner”) filed a Preliminary Response (Paper 8).

On January 24, 2023, we instituted an *inter partes* review of all challenged claims. *See* Paper 13 (“Inst. Dec.”), 63.

Patent Owner filed a Response on May 19, 2023 (Paper 29, “PO Resp.”), Petitioner filed a Reply on September 1, 2023 (Paper 37, “Reply”), and Patent Owner filed a Sur-reply on October 13, 2023 (Paper 46, “Sur-reply”).

An oral hearing was held on October 24, 2023, and a transcript of the hearing is included in the record, as are the demonstratives. *See* Paper 52 (“Tr.”); Ex. 1100 (Petitioner Demonstratives); Ex. 2036 (Patent Owner Demonstratives).

We issue this Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 and, for the reasons that follow, determine that Petitioner has shown, by a preponderance of the evidence, that claims 14–21 and 23–26 are unpatentable but has not shown that claims 1–13 and 27–30 are unpatentable.

B. *Related Matters*

The parties identify *Smart Mobile Techs. LLC v. Apple Inc.*, 6:21-cv-00603 (W.D. Tex.) and *Smart Mobile Techs. LLC v. Samsung Elecs. Co., Ltd.*, 6:21-cv-00701 (W.D. Tex.) as related. *See* Pet. 85–86; Paper 4, 1.

IPR2022-01222, IPR2022-01223, and IPR2022-01249 involve related patents.

C. *The '653 Patent*

The '653 patent describes an unfulfilled need for multiple transmitters and receivers (“T/R”) in a cellular telephone or mobile wireless device (“CT/MD”). *See* Ex. 1001, 1:48–51. Figure 5A of the patent is reproduced below.

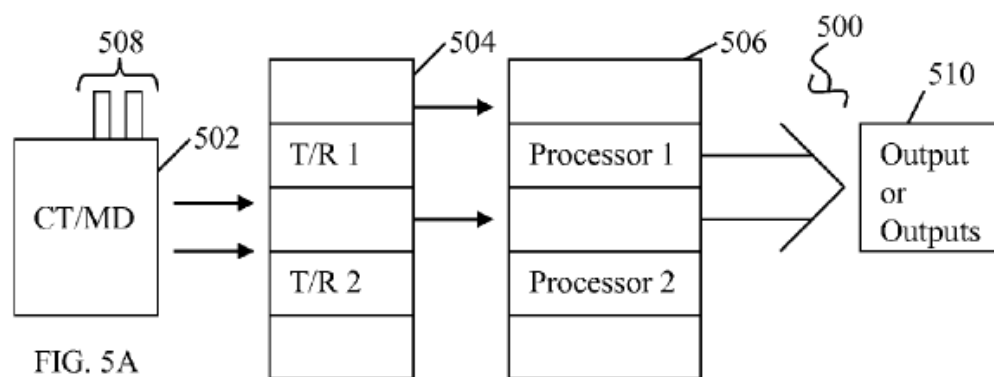


Figure 5A shows a “a dual antenna, dual T/R unit in a CT/MD interfacing with a dual processor.” Ex. 1001, 2:15–17.

Dual antenna 508 and dual T/R unit 504 interface with dual processor 506 in dual band system 500. *See id.* at 4:37–39. System 500 can communicate through outputs 510, which can be “fibre optic channel, ethernet, cable, telephone, or other.” *Id.* at 4:42–45.

“The multiple processors 506 allow for parallel and custom processing of each signal or data stream to achieve higher speed and better quality of output.” Ex. 1001, 4:51–53. Processors 506 include “DSP, CPU, memory controller, and other elements essential to process various types of signals.” *Id.* at 4:55–58.

“The processor contained within the CT/MD 502 is further capable of delivering the required outputs to a number of different ports such as optical,

USB, cable and others” and is “capable of taking different inputs, as well as wireless.” *Id.* at 4:60–64. “Thus the CT/MD 502 has universal connectivity in addition to having a wide range of functionality made possible through the features of multiple antennas, multiple T/R units 504 and processors 506.” *Id.* at 4:67–5:3.

“[T]he CT/MD may use one or more transmission protocols as deemed optimal and appropriate,” and “the CT/MD determines the required frequency spectrum, other wireless parameters such as power and signal to noise ratio to optimally transmit the data.” Ex. 1001, 11:5–11. The CT/MD has “the ability to multiplex between one or more transmission protocols such as CDMA, TDMA to ensure that the fast data rates of the optical network or matched closely in a wireless network to minimize the potential data transmission speed degradation of a wireless network.” *Id.* at 11:12–17. “Thus it is possible that various optical and wireless protocols can co-exist in a network.” *Id.* at 11:29–30.

D. Illustrative Claim

The ’653 patent includes 30 claims, of which Petitioner challenges all but claim 22. Claims 1, 14, 17, and 27 are independent, and claim 1 is reproduced below.

1. An Internet-enabled mobile communication device comprising:
 - a memory;
 - display electronics;
 - at least two or more antennas;
 - at least one or more processors; and
 - a plurality of wireless transmit and receive components including a first wireless transmit and receive component

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