

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.

IPR2022-01004
Patent 9,614,943 B1

Before HYUN J. JUNG, NATHAN A. ENGELS, and
MONICA S. ULLAGADDI, *Administrative Patent Judges*.

JUNG, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Apple Inc. (collectively, “Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of an *inter partes* review of claims 1–9 and 12–20 of U.S. Patent No. 9,614,943 B1 (Ex. 1001, “the ’291 patent”). Smart Mobile Technologies LLC (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). After receiving authorization, Petitioner filed a Reply to the Preliminary Response (Paper 7, “Prelim. Reply”), and Patent Owner filed a Sur-reply (Paper 8, “Prelim. Sur-reply”).

Under 35 U.S.C. § 314, an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Upon consideration of the Petition in view of the present record and for the reasons explained below, we determine that Petitioner has shown a reasonable likelihood of prevailing with respect to at least one of the challenged claims.

Thus, we institute an *inter partes* review of claims 1–9 and 12–20 of the ’943 patent on all presented challenges. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

B. *Real Parties in Interest*

Petitioner identifies Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Apple Inc. as real parties in interest. Pet. 88. Patent Owner only identifies itself as a real party in interest. Paper 4, 1.

C. *Related Matters*

The parties identify *Smart Mobile Techs. LLC v. Samsung Electronics Co., Ltd.*, 6:21-cv-00701 (W.D. Tex.) as a related matter. Pet. 89; Paper 4, 1.

We instituted an *inter partes* review of a related patent. *Samsung Electronics Co., Ltd. v. Smart Mobile Techs. LLC*, IPR2022-00766, Paper 14 (PTAB Oct. 26, 2022) (Decision Granting Institution). Another related patent is challenged in IPR2022-01005.

D. The '943 Patent (Ex. 1001)

The '943 patent issued on April 4, 2017 from an application filed on September 17, 2012, which is a continuation application of several previously filed continuation and continuation-in-part applications, the earliest of which was filed on December 16, 1996. Ex. 1001, codes (22), (45), (63), 1:8–18.

The '943 patent states that an unfulfilled need exists for multiple transmitters and receivers (“T/R”) in a cellular telephone or mobile wireless device (“CT/MD”). Ex. 1001, 1:48–49. Figure 5A of the '943 patent is reproduced below.

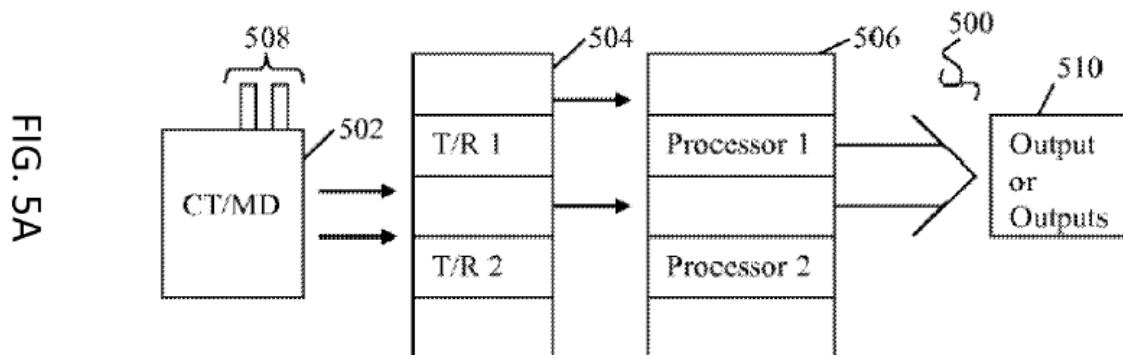


Figure 5A shows a “a dual antenna, dual T/R unit in a CT/MD interfacing with a dual processor.” Ex. 1001, 2:15–16. Dual antenna 508 and dual T/R unit 504 interface with dual processor 506 in dual band system 500. *Id.* at 4:39–41. System 500 can communicate through outputs 510, which can be “fibre optic channel, ethernet, cable, telephone, or other.” *Id.* at 4:44–47.

“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, 4:54–56. Alternatively, there can be “a single processor that has the parallelism and pipeline capability built in for handling one or more data streams simultaneously.” *Id.* at 4:56–59. Processors 506 include “DSP, CPU, memory controller, and other elements essential to process various types of signals.” *Id.* at 4:59–61.

“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 “capable of taking different inputs, as well as wireless.” Ex. 1001, 4:63–67. “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 5:3–6.

“[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, 11:8–10, 11:12–15. 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 11:15–20.

Also, the '943 patent states “by having each of the data streams sampled at differing clock frequencies the performance can be better optimized.” Ex. 1001, 4:36–38. “Each channel may be sampled and

clocked individually as necessary to optimally process each data stream and combine the individual data packets.” *Id.* at 7:50–52.

E. Illustrative Claim

The ’943 patent includes 20 claims, of which Petitioner challenges claims 1–9 and 12–20. Of the challenged claims, claims 1, 5, 8, and 12 are independent, and claim 1 is reproduced below.

1. A wireless communication device comprising:
 - a plurality of antennas; and
 - a communication component coupled to the plurality of antennas, the communication component including a processor, a transmitter, and a receiver,
 - wherein the communication component is configured to communicate via a first frequency band using a wireless communication protocol; and
 - wherein one or more subtasks are assigned to one or more channels, and the one or more channels are sampled and clocked individually; and
 - wherein the processor comprises multiple ones of the one or more channels and is further configured to process a first data stream and a second data stream in parallel.

Ex. 1001, 11:63–12:9.

Independent claims 5, 8, and 12 also recite a “wireless communication device” and the limitations “a plurality of antennas,” “a communication component coupled to the plurality of antennas, the communication component including a processor, a transmitter, and a receiver,” “wherein one or more subtasks are assigned to one or more channels, and the one or more channels are sampled and clocked individually,” and “wherein the processor comprises multiple ones of the one or more channels and is further configured to process a first data stream and a second data stream in parallel.” Ex. 1001, 12:26–30, 12:42–47, 12:55–59, 13:1–6, 13:17–21,

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