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Paper 9
Entered: September 11, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION,
Petitioner,

v.

BLACKBERRY LTD.,
Patent Owner.

Case IPR2018-00637
Patent 8,897,192 B2

Before JAMES B. ARPIN, GARTH D. BAER, and AARON W. MOORE, *Administrative Patent Judges.*

ARPIN, *Administrative Patent Judge*.

DECISION
Granting Institution of Inter Partes Review
37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Nokia of America Corporation ("Petitioner") filed a Petition to institute *inter partes* review of claims 1, 2, 5–9, 12–16, and 19–21 of U.S. Patent No. 8,897,192 B2 (Ex. 1001, "the '192 patent"). Paper 2 ("Pet."). BlackBerry, Ltd. ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp.").

Having considered the Petition, the Preliminary Response, and the evidence of record, and applying the standard set forth in 35 U.S.C. § 314(a), which requires demonstration of a reasonable likelihood that Petitioner would prevail with respect to at least one challenged claim, we *grant* Petitioner's request and institute an *inter partes* review of claims 1, 2, 5–9, 12–16, and 19–21 of the '192 patent on the asserted ground.

B. Related Matters

The '192 patent is the subject of the following litigation: *BlackBerry Ltd. v. Nokia Corp., Nokia Solutions and Networks Oy, Nokia Solutions and Networks Holdings USA, Inc. and Nokia Solutions and Networks US LLC*, Civil Action No. 1:17-cv-00155-RGA (D. Del.), and Patent Owner served Petitioner with a complaint alleging infringement of the '192 patent on February 14, 2017. Pet. 1 (citing Ex. 1006); Paper 6, 2. Patent Owner indicates that BlackBerry, Ltd., is a real party-in-interest (Paper 6, 2); and Petitioner indicates that Nokia Corp., Nokia Finance International B.V., Nokia Technologies Oy, Nokia Solutions and Networks Oy, Nokia Solutions and Networks B.V., and Nokia USA Inc. are real parties-in-interest (Pet. 1).

C. The '192 Patent

The '192 patent is entitled "Systems and Methods for Discontinuous Reception Control Start Time" and is directed to methods, base stations, and computer programs that configure a mobile device "to operate in a discontinuous reception (DRX) mode." Ex. 1001, (54), (57), 16:6–7; *see* Ex. 2001 ¶ 19. The '192 patent claims the benefit of U.S. Provisional Patent Application No. 60/972,583, which has a filing date of September 14, 2007.[1] Ex. 1001, (60). Mobile devices, such as mobile phones, i.e., User Equipment ("UE")), include a radio through which the device receives data. Ex. 1001, 1:15–46; *see* Ex. 2001 ¶ 20. Nevertheless, a UE does not need to receive data constantly, so battery power may be conserved by turning the radio off when the radio is not needed, i.e., putting the receiver "to sleep." As the '192 patent explains, "[t]his simply means that the receive capability of the mobile device's radio is basically turned off while the mobile device is in sleep mode." Ex. 1001, 3:58–61. When the radio is turned back on, so that its receive capabilities are "awake," it can once again receive data. *Id.* at 5:17–25.

The method of alternating a radio receiver's sleep and awake periods is referred to as "discontinuous reception," or "DRX," and the DRX mode of operation "includes DRX sleep periods and DRX awake periods." Ex. 1001, 3:58, 16:7–8; *see* Ex. 1011 ¶¶ 43–45; Ex. 2001 ¶ 20. As noted above, a UE receives data from a network using radio frequencies, which are a limited resource and must be shared by a plurality of UEs. *See* Ex. 2001 ¶ 21. Thus, these frequencies must be allocated and scheduled by the network. *Id.*

[1] On this record and for purposes of this Decision, we treat this date as the earliest effective filing date of the '192 patent.

"Dynamic scheduling involves allocating a resource each time a packet is to be transmitted, and the resource can differ for each allocation." Ex. 1001, 3:20–22; *see* Ex. 2001 ¶ 21. In the Long Term Evolution ("LTE") cellular communication standard, this allocation information is transmitted in the form of layer 1 Control Channel Elements ("CCEs"). Ex. 1001, 3:26–31, 3:43–47; *see* Ex. 2001 ¶ 22.

> In a specific example, a mobile device supporting VoIP with dynamic scheduling monitors layer 1 CCEs (Control Channel Elements) continuously for dynamic scheduling grants even though the mobile device might be only involved in a VoIP session. LTE (Long Term Evolution) refers to CCEs, but the term has more general application to mean simply control information.
>
> As indicated above, a mobile device may support VoIP with dynamic scheduling by monitoring layer 1 CCEs continuously for dynamic scheduling grants. Unfortunately, this might waste battery power for the mobile device, particularly when there are very few or even no dynamic scheduling grants for the mobile device.

Ex. 1001, 3:26–38; *see id*. at 4:3–4.

To avoid this problem, "[t]he signaling for dynamic scheduling is performed during the awake periods," because the mobile device monitors layer 1 CCEs for dynamic scheduling only during its awake period. *Id*. at 6:44–45. In other words, "the mobile device monitors . . . a plurality of downlink layer 1 control channel elements (CCE's)" for a "dynamically-allocated resource" only during DRX awake periods. *Id.* at 16:10–13; *see* Ex. 2001 ¶ 24. Thus, to initiate DRX according to the '192 patent, the mobile device and network coordinate, so that the network transmits control information only when the mobile device is awake.

The '192 patent achieves this coordination through the transmission "by the network" to the UE of "a DRX control parameter that indicates a first . . . DRX awake period[]" for the UE. Ex. 1001, 16:14–16. This ensures that both the UE and the network know when the UE will be awake and ready to receive signals from the network. *Id*. at 16:15–18; *see* Ex. 2001 ¶ 24.

D. Illustrative Claim

Claims 1, 8, and 15 are independent. Ex. 1001, 16:5–16 (claim 1), 16:39–50 (claim 8), 17:13–27 (claim 15). Claim 1 is directed to a method of operating a mobile device in a DRX mode, claim 8 is directed to a base station comprising a processor configured to operate a mobile device in a DRX mode, and claim 15 is directed to a computer program product encoded on a non-transitory medium which causes a processor to operate a mobile device in a DRX mode. Each of claims 2 and 5–7 depends directly or indirectly from claim 1; each of claims 9 and 12–14 depends directly or indirectly from claim 8; and each of claims 16 and 19–21 depends directly or indirectly from claim 15. Consequently, claim 1 is illustrative and is reproduced below.

> 1. A method comprising:
>
> configuring a mobile device to operate in a discontinuous reception (DRX) mode, wherein the DRX mode includes DRX sleep periods and DRX awake periods, wherein during each DRX awake period the mobile device monitors, for a dynamically-allocated resource, a plurality of downlink layer 1 control channel elements (CCE's) in each of a plurality of consecutive sub-frames of that DRX awake period; and
>
> transmitting, by a network, signaling comprising a DRX control parameter that indicates a first of said DRX awake periods.

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