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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* YEN-CHI LEE, MING-CHANG TSAI, YAN YE,  
FAN LING, and KHALED HELMI EL-MALEH

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Appeal 2015-002756  
Application 10/947,981  
Technology Center 2400

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Before DEBRA K. STEPHENS, KEVIN C. TROCK, and  
JESSICA C. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION ON APPEAL

*Introduction*

Appellants<sup>1</sup> appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1–68. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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<sup>1</sup> According to Appellants, the real party in interest is Qualcomm Incorporated. (App. Br. 2.)

### EXEMPLARY CLAIM

Claim 1, reproduced below, is illustrative of the claimed subject matter with disputed limitations emphasized:

1. A video decoding method that preserves physical layer data unit boundary information above a physical layer, the method comprising:

*generating multiplex layer data units containing video data based on physical layer data units;*

*embedding a boundary marker in a first multiplex layer data unit to indicate a boundary between a first physical layer data unit and a second physical layer data unit;*

*demultiplexing the multiplex layer data units to generate a video data frame; and*

*associating, in a video decoder system, a detected decoding error with a segment of the video data frame using the boundary marker, wherein the segment of the video data frame corresponds to one of the physical layer data units, and wherein the boundary marker enables the detected decoding error to be corrected without having to conceal all macro blocks of a slice or an entire frame in which the detected decoding error is located.*

### REJECTIONS

The Examiner made the following rejections:

Claims 59–66 stand rejected under 35 U.S.C. § 101(a) as being directed to non-statutory subject matter. (Final Act. 5–6.)

Claims 1, 2, 4–11, 13, 15–18, 20–28, 30, 32–35, 37–42, 44, 46–49, 51–57, and 59–65 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman (US 6,754,277 B1; issued June 22, 2004), Fong (US 6,590,882 B1; issued July 8, 2003), and Karandikar (US 2005/0195903 A1; published Sept. 8, 2005). (Final Act. 6–12.)

Claims 3, 19, 36, and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman, Fong, Karandikar, and Yi (US 2003/0157927 A1; published Aug. 21, 2003). (Final Act. 12–14.)

Claims 12, 14, 29, 31, 43, 45, 58, and 66–68 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman, Fong, Karandikar, and Balachandran (US 7,194,000 B2; issued Mar. 20, 2007). (Final Act. 14–16.)

## ISSUES

*Issue 1:* Did the Examiner err in finding claims 59–66 recite non-statutory subject matter?

*Issue 2:* Did the Examiner err in finding Fong teaches or suggests “generating multiplex layer data units containing video data based on physical layer data units,” as recited in claim 1 and similarly recited in claims 17, 34, 48, 51, and 59?

*Issue 3:* Did the Examiner improperly combine Heinzelman and Fong?

## ANALYSIS

### *Issue 1*

Appellants argue the Examiner erred in finding that claims 59–66 are directed to non-statutory subject matter because “the specification is clear that the term does not include transitory propagating signals.” (App. Br. 10 (emphasis omitted).) In particular, Appellants argue paragraph 36 of the Specification discloses computer-readable “media . . . that cannot and do not embody transitory propagating signals.” (*Id.*)

We are not persuaded. The Examiner finds, and we agree, there is no express exclusion of transitory media in the Specification. (Ans. 3 (citing Spec. ¶ 36).) Instead, the Specification gives only examples of types of computer-readable storage media, stating “computer-readable medium *such as* random access memory (RAM), read-only memory (ROM), non-volatile random access memory (NVRAM), electrically erasable programmable read-only memory (EEPROM), FLASH memory, *or the like.*” (Spec. ¶ 36 (emphasis added).) The Specification’s open-ended list of computer-readable media examples does not expressly exclude transitory propagating signals. Accordingly, because neither the claim nor the Specification expressly exclude transitory signals from the scope of the claim, we are not persuaded the Examiner erred in finding claims 59–66 encompass non-statutory subject matter.

### *Issue 2*

Appellants argue the Examiner erred in finding Fong teaches or suggests “generating multiplex layer data units containing video data based on physical layer data units,” as recited in claim 1 and similarly recited in claims 17, 34, 48, 51, and 59. (App. Br. 11–16; Reply Br. 2–7.) Specifically, Appellants argue “the ‘multiplex units 210’ of Figure 2 of Fong are still physical layer units” rather than units “*above* the [Radio Link Protocol (RLP) Protocol Data Unit (PDU)] ‘physical layer.’” (App. Br. 13 (emphasis in original); Reply Br. 3.)

We are not persuaded. The Examiner finds, and we agree, Fong teaches RLP-PDUs from one layer are multiplexed into “multiplex units” in

a multiplex layer. (Ans. 4 (citing Fong 1:61–63, 3:7–23, Fig. 2); Final Act. 4–5, 7–8.)

Appellants’ arguments are not commensurate with the scope of the claims. Appellants argue that Fong’s multiplex units “are *below* the RLP-PDU units” while “the MUX-PDUs [ , i.e. multiplex units.,] of [Appellants’] Figure 7 are *above* the RL[P]-PDU ‘physical layer.’” (Reply Br. 3 (emphasis in original); App. Br. 13.) However, the claims do not recite, and, therefore, do not require, that the claimed multiplex layer data units are generated “above” any other layer. Because Fong teaches PDUs “multiplex[ed] in the *Multiplex Layer* . . . into multiplex units” (Fong 2:34–36 (emphasis added)) and the claims do not require that the multiplex units are generated in a layer “above” another layer, we are not persuaded the Examiner erred in finding Fong teaches or suggests “generating multiplex layer data units containing video data based on physical layer data units” as recited in claim 1 and similarly recited in claims 17, 34, 48, 51, and 59.<sup>2</sup>

### *Issue 3*

Appellants argue the Examiner improperly combined Heinzelman and Fong. (App. Br. 14; Reply Br. 5.) Specifically, Appellants argue “Fong lacks any suggestion or motivation to modify operations beyond the physical layer” and “Heinzelman similarly lacks any suggestion or motivation to

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<sup>2</sup> Appellants also argue the other cited references (i.e., Karandikar and Heinzelman) do not teach this limitation. (See App. Br. 14–15.) Because we are not persuaded the Examiner erred in finding Fong teaches the disputed limitation, we need not address whether the other cited references also teach that limitation.

apply any of its disclosures pertaining to above the physical layer to operations at the physical layer.” (App. Br. 14; Reply Br. 5–6.)

We are not persuaded because Appellants’ arguments that Fong and Heinzelman do not provide a suggestion or motivation to modify Fong’s multiplex layer (App. Br. 14; Reply Br. 5–6), are directed to a modification to Fong’s multiplex layer that the Examiner does not make. (Ans. 4–5; *see* Final Act. 4–5, 7–9). As discussed *supra*, we agree with the Examiner’s finding that Fong’s multiplex layer generates multiplex data units from PDUs (Ans. 4 (citing Fong 1:61–63, 3:7–23, Fig. 2; Final Act. 4–5, 7–8; *see* Fong 2:34–36). Appellants’ arguments discussing modifications to Fong’s multiplex layer that the Examiner does not make do not persuade us that the Examiner improperly combined Heinzelman and Fong.

Regarding combining the references’ teachings, the Examiner finds “it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method taught by Heinzelman with the limitations as taught by Fong to provide for multiplex layer mapping of Link Layer PDU’s to frames of the Physical Layer.” (Ans. 7 (citing Fong 1:61–63).) Appellants’ response to this rationale focuses again on their argument that the claims require “above-physical-layer operations.” (*See* Reply Br. 6.) As discussed *supra*, the claims are not so limited. Accordingly, we are not persuaded by Appellants’ arguments that the references themselves lack a suggestion to modify them to arrive at the limitations of claim 1. *See also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[T]he analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take

account of the inferences and creative steps that a person of ordinary skill in the art would employ.”).

For the reasons discussed above, Appellants have not persuaded us that the Examiner improperly combined Heinzelman and Fong.

### *Remaining Claims*

Appellants do not argue separate patentability for dependent claims 2–16, 18–33, 35–47, 49, 50, 52–58, and 60–68 which depend directly or indirectly from claims 1, 17, 34, 48, 51, or 59. (*See* App. Br. 16.) For the reasons set forth above, therefore, we are not persuaded the Examiner erred in rejecting these claims. Accordingly, we sustain the Examiner’s rejections of claims 2–16, 18–33, 35–47, 49, 50, 52–58, and 60–68. *See* 37 C.F.R. § 41.37(c)(1)(iv).

### DECISION

The Examiner’s rejection of claims 59–66 under 35 U.S.C. § 101(a) as being directed to non-statutory subject matter is affirmed.

The Examiner’s rejection of claims 1, 2, 4–11, 13, 15–18, 20–28, 30, 32–35, 37–42, 44, 46–49, 51–57, and 59–65 under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman, Fong, and Karandikar is affirmed.

The Examiner’s rejection of claims 3, 19, 36, and 50 under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman, Fong, Karandikar, and Yi is affirmed.

The Examiner’s rejection of claims 12, 14, 29, 31, 43, 45, 58, and 66–68 under 35 U.S.C. § 103(a) as being unpatentable over Heinzelman, Fong, Karandikar, and Balachandran is affirmed.

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

AFFIRMED