UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/806,893	11/08/2017	Yunfei Zheng	2009P00073 US01	4776

157363   7590   10/01/2020

InterDigital VC Holdings
4 Research Way
3rd Floor
Princeton, NJ 08543

EXAMINER
SULLIVAN, TYLER

ART UNIT	PAPER NUMBER
2487	

NOTIFICATION DATE	DELIVERY MODE
10/01/2020	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):

PatentOPs.US@interdigital.com
donna.foligno@interdigital.com
patricia.verlangieri@interdigital.com

UNITED STATES PATENT AND TRADEMARK OFFICE

————————

BEFORE THE PATENT TRIAL AND APPEAL BOARD

————————

Ex parte YUNFEI ZHENG, QIAN XU, XIAOAN LU, PENG YIN,
JOEL SOLE ROJALS, and ADEEL ABBAS

————————

Appeal 2019-004166
Application 15/806,893
Technology Center 2400

————————

Before ST. JOHN COURTENAY III, LARRY J. HUME, and
PHILLIP A. BENNETT, *Administrative Patent Judges*.

COURTENAY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant[1] appeals under 35 U.S.C. § 134(a) from a final rejection of
claims 1, 3–5, 7–9, 11–13, 15, and 16. Claims 2, 6, 10, 14, and 17–19 are
canceled. We have jurisdiction over the pending claims 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(a) (2019). According to Appellant, the "real party in
interest is InterDigital VC Holdings." *See* Appeal Br. 3.

STATEMENT OF THE CASE [2]

Introduction

Appellant's claimed invention relates generally to method and apparatus "for signaling intra prediction for large blocks for video encoders and decoders." Abstract.

Independent Claim 9

9.   A video decoder, comprising at least a memory and one or more processors, wherein the one or more processors are configured to:

decode picture data for at least a large block in a picture by determining that intra prediction is to be performed for the at least a large block,

[L1] *wherein the at least a large block has a large block size greater than a basic coding unit size, the large block size being one of 32x32 and 64x64 and the basic coding unit size being 16x16,*

[L2] wherein the intra prediction is signaled for the at least a large block and the one or more processors are configured to:

- *decode a binary split signaling syntax element specifying whether the large block is further split into four equally sized sub-blocks*;

- decode an intra prediction mode for said large block in the case where said binary split signaling syntax element specifies the large block **is not further split**;

otherwise in the case where said binary split signaling syntax element specifies the large block is further split:

---

[2] We herein refer to the Final Office Action, mailed September 20, 2018 ("Final Act."); Appeal Brief, filed February 6, 2019 ("Appeal Br."); the Examiner's Answer, mailed March 5, 2019 ("Ans."). We note Appellant has not filed a Reply Brief.

[L3] - *decode for each sub-block, in the case where said sub-block is 32x32, a binary split signaling syntax element specifying whether said 32x32 sub-block is further split into four equally basic coding unit sized blocks and decode an intra prediction mode for said 32x32 sub-block in the case where said binary split signaling syntax element specifies said 32x32 sub-block **is not further split***; and

[L4] - *decode for each sub-block, in the case where said sub-block is 16x16, a single spatial intra partition type, the single spatial intra partition type being determinable from among a plurality of spatial intra partition types*.

Appeal Br. 22–23, Claims App. (disputed L1–L4 limitations emphasized, negative limitations in bold).

Evidence

The prior art relied upon by the Examiner as evidence is:

Name	Reference	Date
Moriya et al. ("Moriya")	US 2008/0123947 A1	May 29, 2008
Chen et al. ("Chen")	US 2010/0086029 A1	April 8, 2010
Zheng et al. ("Zheng")	US 2012/0106629 Al	May 3, 2012
Chen et al. ("Chen '357)	US Prov. 61/144,357	Jan. 13, 2009
Chen et al. ("Chen '631)	US Prov. 61/166,631	April 3, 2009
Park et al. ("Park")	WO 2009/028922 A2	March 5, 2009

Rejections

As noted by Appellant, the non-statutory obviousness-type double patenting (OTDP) rejection of claims 1, 3–5, 7–9, 11–13, 15, and 16, as being unpatentable over claims 19, 23, 38, 40, 46, and 48 of copending Application No. 13/381,538 (US PG PUB 2012/0106629 A1, "Zheng"), is moot in view of a previously filed terminal disclaimer. *See* Appeal Br. 11.

We note the terminal disclaimer was filed on Feb. 6, 2019, and was approved on Feb. 9, 2019. In response, the Examiner withdrew the OTDP rejection in the Answer (16). Therefore, this rejection is not before us on appeal.

The rejections that remain before us on appeal are:

Rej.	Claims Rejected	35 U.S.C. §	Reference(s)/Basis
A	1, 3–5, 7–9, 11–13, 15, 16	112, second paragraph	Indefinite
B	1, 5, 9, 13	103(a)	Park, Chen, Chen '631, and Chen '357
C	3, 4, 7, 8, 11, 12, 15, 16	103(a)	Park, Chen, Moriya

ANALYSIS

Rejection A under 35 U.S.C. § 112, second paragraph, Indefiniteness

Issue: Under 35 U. S.C. § 112, second paragraph, did the Examiner err in concluding that claim 1 is indefinite?

The Examiner concludes claim 1:

teaches 32 x 32 as a large block, but later claims the 32 x 32 block as a sub-block which would imply the 64 x 64 block was

> selected as the large block, but defeats the definition of a 32 x
> 32 block as a large block making the claim indefinite.

Final Act. 17.

> Applicant contends:

> since the large block size is one of 64x64 and 32x32, the
> corresponding sub-block size is one of 32x32 and 16x16.
> Consequently, a 32x32 can be regarded as a large block in
> partitioning scheme (1) and as a sub-block in splitting scheme
> (2), and whether a 32x32 block is considered as a large block or
> a sub-block would be readily understood by those skilled in the
> art.

Appeal Br. 11–12. Appellant further contends:

> [w]hen reading the claim as a whole, those skilled in the art
> would clearly understand that a 32x32 block can be considered
> as a large block or as a sub-block, depending on the partitioning
> scheme as described above. Therefore, the recitation of a
> 32x32 block as a large block and later as a sub-block does not
> render claim 1 indefinite.

Appeal Br. 12.

We note that 35 U.S.C. § 112, second paragraph, requires: "The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." As guided by the Manual of Patent Examining Procedure (MPEP), a rejection based on the failure to claim the subject matter which the applicant regards as the invention "is appropriate only where an inventor has stated, somewhere other than in the application as filed, that the invention is something different from what is defined by the claims." MPEP § 2172(1).

Given the supporting descriptions in Appellant's Specification (pp. 13–14), and for essentially the same reasons argued by Appellant (App.

Br. 11–12), we are persuaded that the language of claim 1 is not indefinite.

Therefore, we reverse the Examiner's rejection of claims 1, 3–5, 7–9, 11–13,

15, and 16 under 35 U.S.C. § 112, second paragraph.

Rejection B under pre-AIA 35 U.S.C. § 103(a)

Under 35 U.S.C. § 103(a), we focus our analysis on the following

argued limitations regarding Rejection A of independent claims 1, 5, 9,

and 13.

Issue: Did the Examiner err by finding that Park, Chen, Chen '631,

and Chen '357 collectively teach or suggest the disputed, dispositive

limitation L3:

> *decode for each sub-block, in the case where said sub-block is*
> *32x32, a binary split signaling syntax element specifying*
> *whether said 32x32 sub-block is further split into four equally*
> *basic coding unit sized blocks and decode an intra prediction*
> *mode for said 32x32 sub-block in the case **where said binary***
> ***split signaling syntax element specifies said 32x32 sub-block***
> ***is not further split*** [,]

within the meaning of independent claims 1, 5, 9, and 13? (emphasis

added).[3]

Rejection B of Independent Apparatus Claims 9 and 13

The Examiner finds the claim language "decode an intra prediction

mode for said 32x32 sub-block in the case where said binary split signaling

syntax element specifies said 32x32 sub-block is not further split" is taught

---

[3] We give the contested claim limitations the broadest reasonable
interpretation (BRI) consistent with the Specification. *See In re Morris*, 127
F.3d 1048, 1054 (Fed. Cir. 1997).

by a series of citations to Park, Chen '357, and Chen '631. *See* Final
Act. 21.

However, after reviewing each of these citations, we find that the
Examiner has not fully developed the record to show how the negative
limitation *"where said binary split signaling syntax element specifies said*
*32x32 sub-block **is not further split***" (emphasis added) (which is also recited
in the original claims), is specifically taught or suggested by the Examiner's
citations.

On this record, we find the Examiner's mapping of this disputed
negative claim limitation to the corresponding specific features found in the
cited reference(s) is imprecise, and thus would require us to engage in some
degree of speculation.[4] We decline to engage in speculation. On this record,
the Examiner has not clearly shown the specific mapping of this negative
limitation, and therefore has not established a prima facie showing of
obviousness under 35 U.S.C. § 103(a), and under the notice requirement of
35 U.S.C. § 132(a).

Therefore, we are constrained on this record to find the Examiner
erred in concluding that the cited combination of Park, Chen, Chen '631, and
Chen '357, renders obvious Appellant's independent apparatus claims 9 and
13.

---

[4] *See* 37 C.F.R. § 1.104(c)(2) ("When a reference is complex or shows or
describes inventions other than that claimed by the applicant, the particular
part relied on must be designated as nearly as practicable. The pertinence of
each reference, if not apparent, must be *clearly explained* and each rejected
claim specified.") (emphasis added).

Accordingly, we reverse the Examiner's 35 U.S.C. § 103(a)
Rejection B of independent apparatus claim 9, and for the same reasons, we
also reverse Rejection B of independent apparatus claim 13, which recites
the contested negative limitation using similar language of commensurate
scope.

Rejection C of Dependent claims 11, 12, 15, and 16

Because we have reversed the rejection of independent claims 9 and
13 on appeal, we also reverse the Examiner's Rejection C of each associated
dependent claim 11, 12, 15, and 16. On this record, the Examiner has not
shown how the additionally cited secondary Moriya reference overcomes the
aforementioned deficiencies of the base combination of Park and Chen, as
discussed above regarding independent apparatus claims 9 and 13.

Rejection B of Independent Method Claims 1 and 5

Regarding Rejection B of independent method claims 1 and 5,
although these claims also recite the disputed negative limitation discussed
above in commensurate form, we note the conditional language employed in
the limitations "**in the case where** said binary split signaling syntax element
specifies the large block is not further split" and

> otherwise **in the case where** said binary split signaling syntax
> element specifies the large block is further split:
>
> - decoding for each sub-block, **in the case where** said sub-
> block is 32x32, a binary split signaling syntax element
> specifying whether the 32x32 sub-block is further split into four
> equally basic coding unit sized blocks and decoding an intra
> prediction mode for said 32x32 sub-block **in the case where**
> said binary split signaling syntax element specifies said 32x32
> sub-block *is not further split*; and

> - decoding for each sub-block, **in the case where** said sub-block is 16x16, a single spatial intra partition type, the single spatial intra partition type being determinable from among a plurality of spatial intra partition types,

as recited in method claim 1, and similarly recited in (encoding) method claim 5. (emphasis added).

See Ex parte Schulhauser, Appeal No. 2013-007847, 2016 WL 6277792, at *9 (PTAB, Apr. 28, 2016) (precedential) (holding "The Examiner did not need to present evidence of the obviousness of the remaining method steps of claim 1 that are not required to be performed under a broadest reasonable interpretation of the claim (e.g., instances in which the electrocardiac signal data is not within the threshold electrocardiac criteria such that the condition precedent for the determining step and the remaining steps of claim 1 has not been met."); *see also Ex parte Katz,* Appeal No. 2010-006083, 2011 WL 514314, at *4–5 (BPAI Jan. 27, 2011).

Applying the precedential guidance of *Schulhauser* here, we find that for independent method claims 1 and 5, the Examiner need not present evidence of the obviousness of the disputed *conditional method steps* because they are not required to be performed under the broadest reasonable interpretation of the claim.[5] Therefore, on this record, and based upon a

---

[5] *See, also e.g., Applera Corp. v. Illumina, Inc.,* 375 Fed. App'x. 12, 21 (Fed. Cir. 2010) (unpublished) (affirming a district court's interpretation of a method claim as including a step that need not be practiced if the condition for practicing the step is not met); *Cybersettle, Inc. v. Nat'l Arbitration Forum, Inc.,* 243 Fed. App'x. 603, 607 (Fed. Cir. 2007) (unpublished) ("It is of course true that method steps may be contingent. If the condition for performing a contingent step is not satisfied, the performance recited by the

preponderance of the evidence, Appellant arguments regarding the disputed *conditional limitations* of claims 1 and 5 do not persuade us of error regarding the Examiner's underlying factual findings and ultimate legal conclusion of obviousness.

Accordingly, we sustain the Examiner's 35 U.S.C. § 103(a) Rejection B of independent claims 1 and 5.

Rejection C of Dependent Claims 3, 4, 7, and 8

Because dependent claims 3, 4, 7, and 8 depend variously from rejected method claims 1 or 5, which we affirmed on the basis of *Schulhauser*, as explained *supra*, the same basis for affirmance applies to all claims that depend from claims 1 or 5 (and not separately argued). Therefore, we affirm the Examiner's Rejection C of dependent claims 3, 4, 7, and 8, for the same reasons discussed above regarding independent method claims 1 and 5.

CONCLUSIONS

The Examiner erred in rejecting claims 1, 3–5, 7–9, 11–13, 15, and 16, as being indefinite under 35 U.S.C. § 112, second paragraph.

The Examiner erred in rejecting claims 9, 11, 12, 13, 15, and 16 under 35 U.S.C. § 103(a).

The Examiner did not err in rejecting claims 1, 3, 4, 5, 7, and 8 under 35 U.S.C. § 103(a).

---

step need not be carried out in order for the claimed method to be performed.").

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3–5, 7–9, 11–13, 15, 16	112, 2nd par.	Indefiniteness		1, 3–5, 7–9, 11–13, 15, 16
1, 5, 9, 13	103	Park, Chen, Chen '631, Chen '357	1, 5	9, 13
3, 4, 7, 8, 11, 12, 15, 16	103	Park, Chen, Moriya	3, 4, 7, 8	11, 12, 15, 16
Overall Outcome			1, 3–5, 7, 8	9, 11, 12, 13, 15, 16

FINALITY AND RESPONSE

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). *See* 37 C.F.R. § 41.50(f).

AFFIRMED IN PART