UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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UNIFIED PATENTS INC.,
Petitioner,

v.

VELOS MEDIA, LLC,
Patent Owner.

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IPR2019-00763
Patent 10,110,898 B2

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Before JENNIFER S. BISK, MONICA S. ULLAGADDI, and
AARON W. MOORE, *Administrative Patent Judges.*

ULLAGADDI, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining All of the Challenged Claims to be Unpatentable
35 U.S.C. § 318(a)

I.   INTRODUCTION

Unified Patents Inc.[1] ("Petitioner") requested an *inter partes* review of claims 1, 3–5, 7, and 8 (the "challenged claims") of U.S. Patent No. 10,110,898 B2 (Ex. 1001, "the '898 patent"). Paper 2 ("Petition" or "Pet."). Velos Media, LLC ("Patent Owner") filed a Preliminary Response. Paper 7 ("Prelim. Resp."). Pursuant to Board authorization, Petitioner filed a Reply (Paper 9, "Prelim. Reply") to Patent Owner's Preliminary Response and Patent Owner filed a Sur-Reply (Paper 10, "Prelim. Sur-Reply").

On October 1, 2019, we entered a Decision on Institution ("Institution Decision" or "Inst. Dec.," Paper 11) instituting an *inter partes* review as to all of the challenged claims on all of the grounds set forth in the Petition.

After institution of trial, Patent Owner filed a Patent Owner Response ("PO Resp.," Paper 26), to which Petitioner filed a Reply ("Pet. Reply," Paper 31).[2] Patent Owner filed a Sur-reply ("Sur-Reply," Paper 33).[3] A hearing was held on July 8, 2020. The transcript of the hearing has been entered into the record. Paper 46 ("Transcript" or "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This final written decision is issued pursuant to 35 U.S.C. § 318(a). As explained below, we conclude Petitioner has shown by a preponderance of the evidence that claims 1, 3–5, 7, and 8 of the '898 patent are unpatentable.

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[1] Petitioner has informed us that Unified Patents Inc. has changed its name to Unified Patents, LLC. Paper 25.

[2] Ex. 1044 is the redacted version of the Patent Owner's Response. Ex. 1054 is the redacted version of the Petitioner's Reply.

[3] Ex. 1055 is the redacted version of Patent Owner's Sur-Reply.

II. BACKGROUND

A. Related Proceedings

Petitioner and Patent Owner indicate that the '898 patent is not asserted in any related district court proceedings. Paper 4, 2; Pet. 57. Petitioner indicates that the application underlying the '898 patent "claims the benefit of the filing date of U.S. Patent Application No. 13/744,759," and that "there are three currently pending applications that claim the benefit of the filing date of [that] common parent [No. 13/744,759] to the '898 patent: U.S. Patent Application Nos. 15/253,035; 16/111,961; and 16/239,010." Pet. 57.

Although Patent Owner stated, in its Preliminary Response, that "Petitioner has filed a total of thirteen requests for IPR against Velos patents," specifically, IPR2019-00194, IPR2019-00635, IPR2019-00660, IPR2019-00670, IPR2019-00707, IPR2019-00710, IPR2019-00720, IPR2019-00749, IPR2019-00757, IPR2019-00763, IPR2019-00806, IPR2019-00883, and IPR2019-01130, other than the instant proceeding, none of these proceedings appear to concern either the '898 patent or a patent related to the '898 patent. Prelim. Resp. 2 n.1.

B. The '898 Patent (Ex. 1001)

The '898 patent concerns extending chroma quantization parameters to have, for example, the same range as luma quantization parameters (e.g., 0 to 51). Ex. 1001, code (57). The '898 patent discloses that, "[p]reviously, values of Chroma QP [quantization parameters] only extended up to 39." *Id.* The '898 patent discloses determining the chroma quantization parameters based on luma quantization parameters and picture level chroma offsets. *Id.* More particularly, the '898 patent discloses two equations for determining

quantization parameters for chroma components Cb and Cr, respectively, using picture-level offsets. *Id.* at 5:8–10. These equations, labeled equations (1) and (2), are reproduced below:

$$QP_{Cb} = Clip\ (0, 51, QP_Y + Cb\_QP\_offset)$$
$$QP_{Cr} = Clip\ (0, 51, QP_Y + Cr\_QP\_offset)$$

Equations 1 and 2 above determine the two respective quantization parameters between 0 and 51, based on luma quantization parameter, QP_y and Cb_QP_offset or Cr_QP_offset, which are the two chroma QP offset parameters. *Id.* at 5:11–19. The '898 patent further discloses equations for calculating the same quantization parameters using slice-level offsets. *Id.* at 5:33–37 (Eqns. 3 and 4).

C.   *Challenged Claims*

Challenged claims 1 and 5 are independent. Challenged claims 3, 4, 7, and 8 depend therefrom. Independent claim 1 is illustrative and reproduced below.

> 1. A decoding apparatus, comprising:
> circuitry configured to:
> 	set a first chroma quantization parameter (QP) included in a chroma QP range from 0 to 51 equal to a luma QP range, based on a parameter including a picture level chroma QP offset added to a luma QP; and
> 	inverse quantize quantization data that is decoded from a bit stream, based on the first chroma QP.

Ex. 1001, 8:44–51.

D.   *Proposed Grounds of Unpatentability*

Petitioner supports the following challenges with the First and Second Declarations of Dr. Joseph P. Havlicek (Exs. 1002, 1047).

Reference(s)	Basis[4]	Claims Challenged
Advanced Video Coding for Generic Audiovisual Services, ITU-T[5] Recommendation H.264 (11/2007) (Ex. 1004, "H.264")	§ 103	1, 3–5, 7, and 8
H.264 in view of U.S. Patent Application Publication No. 2006/0018559 A1 to Kim et al. (Ex. 1006, "Kim")	§ 103	1, 3–5, 7, and 8

Patent Owner disputes Petitioner's challenges and relies on the Declaration of Iain Richardson (Ex. 2009).

III. ANALYSIS

A. *Principles of Law*

A claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness,

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[4] Because the application leading to the '898 patent claims an effective filing date before March 16, 2013, patentability is governed by the version of 35 U.S.C. § 103 preceding the Leahy-Smith America Invents Act ("AIA"), Pub L. No. 112–29, 125 Stat. 284 (2011). *See* Ex. 1001, code (22), (60), (63).
[5] ITU-T stands for International Telecommunication Union Telecommunication Standardization Sector.

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