

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner

v.

INTERDIGITAL, INC.,
Patent Owner

IPR2024-01441

U.S. Patent No. 9,674,556

PATENT OWNER'S PRELIMINARY SUR-REPLY

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Patent Trial and Appeal Board
U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

U.S. Patent 9,674,556
IPR2024-01441
Patent Owner's Preliminary Sur-Reply

LIST OF EXHIBITS

EXHIBIT NO.	SHORT NAME	DESCRIPTION
Exhibit 2001	Richardson	Declaration of Dr. Iain Richardson
Exhibit 2002	Richardson CV	Curriculum Vitae of Dr. Iain Richardson
Exhibit 2003	IDG PH Brief	Public Version of Complainants' Initial ITC Post-Hearing Brief
Exhibit 2004	Ligotti Decl.	Declaration of Andrew J. Ligotti

Pursuant to the Board's Order (Paper 8), Patent Owner files this preliminary sur-reply, addressing the issues raised in Petitioner's preliminary reply (Paper 10).

In its preliminary reply, Petitioner disregards the clear, limited, scope authorized by the Board: "addressing only the issue of whether VC1 is cumulative of H.264." Paper 8, 5. Instead, Petitioner discusses the Guleryuz reference and whether the Office committed material error. Neither falls within the narrow scope that the Board granted, and the Board should not consider these new arguments.

The reason Petitioner ignores the Board's Order is that the aspect of VC1 the Petition relies upon, the in-loop deblocking filter, is not materially different from H.264's in-loop deblocking filter. Indeed, the Petition characterizes its grounds as simply "applying two particular filters when reconstructing a video . . . each to serve its own particular purpose, and selectively turning them on or off." Petition, 1; *see also* EX1034, 23:7-19 (Petitioner's counsel explaining its view that "fundamentally [Petitioner] needed references just at a very broad level that masked [sic] two different filters"). As Patent Owner explained, Petitioner's simplistic approach to the VC1 reference's in-loop deblocking filter is cumulative of the in-loop deblocking filter in references like H.264. Paper 6, 65-66.

Petitioner admits to the similarities of VC1 and H.264 in the preliminary reply, acknowledging that "both teach a coding standard that includes a deblocking filter"

and that H.264's deblocking filter is enabled/disabled. Paper 10, 1; *see also id.*, 4. This is precisely Patent Owner's point. Petitioner's reliance on VC1 in Ground 3 "merely swaps in similar references and repeats the same arguments already overcome in prosecution" in a misguided attempt to avoid §325(d). *Siemens Mobility, Inc. v. Metrom Rail*, IPR2024-00947, Paper 12, at 16-17 (P.T.A.B. Nov. 19, 2024). The Board, of course, considers not only what references petitioners apply, but also *how* petitioners apply references when determining cumulativeness under §325(d). *See, e.g., id.*; *Samsung Elecs. Am. Inc. v. Uniloc 2017 LLC*, IPR2018-01756, Paper 7, 27 (P.T.A.B. Mar. 11, 2019). Here, Petitioner uses the primary references across all its grounds to allege a decoding process that includes an in-loop deblocking filter and, in Ground 3, proposes modification to use Guleryuz's filter as a second filter—just as the Examiner did during prosecution. Paper 6, 4-5.

The Petition highlights the repetitiveness of its challenges. Petitioner argued that a POSITA would allegedly be motivated to combine VC1 with Guleryuz because "[d]oing so would have amounted to no more than combining prior art elements . . . according to known methods (implementing an in-loop denoising filter after an in-loop deblocking filter as taught in numerous prior art references including Lee [asserted in Grounds 1A and 1B] and Chiang [asserted in Ground 2])." Petition, 59. Petitioner also argued applying multiple loop filters as alleged in the VC1 ground

was a “known technique” according to art applied in Grounds 1A, 1B, and 2. *Id.*

The two alleged “material differences” Petitioner identifies in its preliminary reply only reinforce that VC1 is cumulative of H.264. Paper 10, 3. Petitioner first argues VC1 is materially different because it has two loop filters to H.264’s single deblocking filter. But Ground 3 proposes to use only VC1’s single deblocking filter. Petition, 57-60. Petitioner never explains why VC1’s deblocking filter is not cumulative to H.264’s deblocking filter. Plus, as noted above, the Petition analogizes its reading of VC1 to art in other grounds that was before the Office. The Examiner was well-aware of prior art with two in-loop filters and nevertheless allowed the claims. Paper 6, 4-5, 62-66. Even if VC1’s other filter was a relevant difference from H.264 (it is not, because it is not part of Petitioner’s combination), VC1 still fails to be materially different from art before the Office during prosecution. *Id.*, 65-66.

Petitioner’s second alleged “material difference” also fails because it does not account for how the Petition uses VC1. The preliminary reply argues that enabling/disabling H.264’s “single deblocking filter” is done “with a different mechanism” than VC1. Paper 10, 4. Petitioner does not address how this mechanism is allegedly different or explain how it relates to the claims. H.264’s single deblocking filter is also not a material difference because Petitioner alleged the mechanism for enabling/disabling VC1’s single deblocking filter “would have

applied to both” filters in the combination. Petition, 62. Given its admission that H.264 also teaches a deblocking filter that is enabled/disabled, Petitioner's use of VC1 is cumulative to H.264.

Last, Petitioner's new arguments about Guleryuz emphasize a fatal flaw in the Petition. Petitioner now admits that “Guleryuz itself notes difficulty with implementation of its filter with H.264.” Paper 10, 4. But the Petition never addressed Guleryuz's warning about its filter's difficult implementation, which Petitioner now labels as “important.” *Id.* (citing EX1010, 4). Petitioner tries to sidestep this warning with attorney argument that these “difficulties” would not carry over to VC1 based solely on the fact that Guleryuz did not specifically mention VC1. *Id.* But this leaves the Board without factual evidence to support institution because the Petition never explains why VC1 is allegedly different from the “other popular video coding standards at the relevant time,” like H.264, such that Guleryuz's teaching away would not apply. Paper 10, 5.

On the other hand, Patent Owner's expert, Dr. Richardson, *did* address Guleryuz's difficult implementation (EX2001, ¶85) and explained that “Guleryuz's statement about the disadvantages of ‘traditional’ deblocking filter systems is directed to the specific deblocking system in WMV9 that was later described in the VC1 reference applied in Ground 3.” *Id.*, ¶111. Dr. Richardson concluded that

Guleryuz teaches away from Petitioner's proposed VC1 combination. *Id.*, ¶¶109-117. Not only is this expert testimony unrebutted, but it is now strengthened by Petitioner's own admission. Guleryuz's warning as to implementation with H.264's "coding standard that includes a deblocking filter" (Paper 10, 4) applies to VC1's "decoding process that includes an in-loop deblock filtering process." Petition, 57.

Petitioner fails to remedy the core §325(d) issue: the Examiner allowed the claims because the prior art does not teach using an adaptive sparse de-noising filter in-loop with an in-loop deblocking filter. The Petition's identical or cumulative art does not demonstrate otherwise. In fact, Petitioner's art teaches away from this inventive approach because the only reference alleged to teach sparse filtering under a "correct" construction, Guleryuz, teaches a single filtering solution that replaces deblocking filters. Paper 6, 56-61. At bottom, there was no "material error" by the Examiner—the Examiner got it right. *Id.*, 66-68. Rather than present materially different unpatentability challenges, the Petition swaps "new" art like VC1 for the art before the Office to teach "a decoding process that includes an in-loop deblock filtering process." Petition, 57. Institution should therefore be denied under § 325(d).

Dated: March 14, 2025

Respectfully submitted,

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LEAD COUNSEL FOR PATENT OWNER

CERTIFICATION OF SERVICE

The undersigned hereby certifies that a true and correct copy of the above-captioned **PATENT OWNER'S PRELIMINARY SUR-REPLY** and related declaration were served in their entirety on March 14, 2025, on Counsel for Petitioner via filing through the P-TACTS System, as well as by delivering a copy via electronic mail to the following:

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