

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C. 20436**

**Before The Honorable MaryJoan McNamara
Administrative Law Judge**

In the Matter of

**CERTAIN VIDEO-CAPABLE LAPTOP,
DESKTOP COMPUTERS, HANDHELD
COMPUTERS, TABLETS, TELEVISIONS,
PROJECTORS, AND COMPONENTS AND
MODULES THEREOF**

Inv. No. 337-TA-1448

RESPONDENTS' POST-HEARING BRIEF

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I. INTRODUCTION

Respondents Acer Inc. and Acer America Corporation (“Acer”), and Respondents ASUSTeK Computer, Inc., and ASUS Computer International (collectively, “ASUS”), (collectively “Respondents”) respectfully submit this Initial Post-Hearing Brief directed to issues on which Respondents bear the burden of proof. The evidence adduced at the evidentiary hearing confirmed that Respondents have not violated Section 337 for several reasons.

First, as will be addressed in Respondents’ Reply Post-Hearing Brief, the accused products do not infringe any of the Asserted Claims in view of clear distinctions that were highlighted during the hearing. The evidence simply laid waste to Complainants’ theory that “if you practice the standards, you infringe” – the reality is more complex and was borne out during the hearing.

Second, three of the four asserted patents were shown to be invalid by clear and convincing evidence in view of the prior art. The evidence against the ’267 patent confirmed the correctness of Judge Elliot’s invalidity finding in the 1380 Investigation and addressed the open issues he noted with respect to certain claims. Staff’s abrupt change in position regarding the validity of the ’267 patent simply ignores clear evidence presented during the hearing and should be rejected. Clear and convincing evidence of invalidity was also presented for the ’714 and ’321 patents, as detailed herein. With respect to the ’701 patent, the evidence of non-infringement is so clear and compelling based on Complainants’ deliberate misinterpretation of the claims and the lack of the claimed categorization step that an invalidity analysis is simply unnecessary.

Third, as will be addressed in Respondents’ Reply Post-Hearing Brief, Complainants have failed to meet their burden of establishing the existence of a domestic industry due to their misplaced reliance on third party investments in downstream articles rather than the products alleged to practice the patented functionality.

Fourth, the evidence has shown (and the UK Court has found) that Complainants have breached their undisputed contractual obligations to offer licenses to the Asserted Patents on RAND terms, thereby rendering the patents unenforceable. The evidence at the hearing demonstrated in significant detail Nokia's well-honed licensing scheme which begins with collecting early license agreements from smaller entities at so-called "program rates" the origin of which Nokia's witnesses could not explain and which in fact are untethered to any economic value of the Asserted Patents. Having acquired such smaller licenses – the evidence shows that many of these early licensees have in fact paid Nokia small amounts or even zero – Nokia then holds out these licenses as comparables to larger licensing targets while withholding all relevant information about the terms of the agreements so that the prospective licensees are faced with an unfair bargaining position. Nokia then employed the ultimate hammer against Respondents by seeking injunctive relief in multiple actions around the world (Germany, Brazil, India, ITC) while steadfastly refusing to ask any tribunal to set a RAND rate for its patents, demonstrating that the sole purpose of these legal actions is merely to extract supra-RAND rates from its portfolio. Respondents have negotiated with Nokia for years in good faith, as willing licensees at RAND rates. Respondents have made multiple good faith RAND-compliant offers based on the best publicly available information regarding rates for video codec technology – the rates offered by H.264 and H.265 patent pools. While now criticizing Respondents' reliance on pool rates, the evidence shows that Nokia once publicly advocated using pool rates as a source of information relevant to determining RAND rates and in fact offered at least one licensee [REDACTED] a rate for its video codec patents based on MPEG pool rates. Respondents' status as willing licensees is best demonstrated by their seeking of a RAND rate from the UK Court and agreeing to pay the rate determined by the UK Court, something that Nokia as refused to acknowledge or agree to. As

detailed herein, Nokia's behavior led the UK Court to correctly conclude that Nokia has breached its RAND commitment. This breach renders the Asserted Patents unenforceable under multiple legal and equitable grounds.

Finally, even if a violation is found, consideration of the public interest factors – both SEP-based and traditional, market-based factors – weigh against the imposition of any remedy.

II. U.S. PATENT NO. 8,051,321

Nokia has asserted claims 8 and 10 of the '321 Patent. Each of claims 8 and 10 contain several limitations, but the critical limitation for both infringement and invalidity is the last limitation, 8[e]/10[e]: “resetting the identifier value for the indicated first image frame.” Given the evidence introduced at the Hearing, the ALJ should find no violation with respect to the '321 Patent for a myriad of reasons. *First*, the ALJ should adopt Respondents' proposed claim constructions of both “reset[ting]” and “the identifier value.” If either of Respondents' proposed claim constructions are adopted, there can be no violation of Section 337 with respect to the '321 Patent because neither Nokia's infringement expert, Dr. Chrissan, nor its validity expert, Dr. Richardson, performed critical necessary analysis under Respondents' construction. *Second*, even if the ALJ adopts Complainant's and/or Staff's proposed constructions, the Asserted Claims are invalid as obvious in view of MPEG-1 alone or in combination with Adolph.

Starting with the issue of claim construction, Respondents' proposed constructions give full meaning to the language of the claims—including identifying an actual antecedent basis for “the” in “the identifier value” and giving the prefix “re-” in “resetting” its plain and ordinary meaning. Nokia and the Staff's constructions, on the other hand, seek to rewrite the express claim language by removing the “the” in “the identifier value” and replacing it with “an,” and by removing the “re-” in reset[ting] to change “reset” to set in the first instance. Nokia and the Staff's

attempt to rewrite the claims is inconsistent with the case law, as well as the intrinsic and extrinsic evidence, and should be rejected. Respondents' proposed constructions should be adopted.

If either of Respondents' proposed constructions are adopted, then there can be no violation of Section 337 with respect to the '321 Patent. First, as will be addressed in more detail in Respondents' Responsive Post-Hearing Brief, Nokia's infringement expert, Dr. Chrissan, confirmed that he had "no opinions as to whether there's infringement under Respondents' proposed construction[s]." Tr. (Chrissan) at 515:25-515:6. But, as relevant to this Brief, even if there were infringement, it is undisputed that if Respondents' proposed constructions are adopted, the Asserted Patents would be invalid in view of VLC Version 0.7.2 (RX-4032, RX-1991). Specifically, in order to demonstrate that VLC Version 0.7.2 does not qualify as prior art, Nokia claims priority to a Finnish Application. But Nokia's invalidity expert, Dr. Richardson, confirmed that he only reached conclusions that the claims were entitled to priority to the Finnish Application "under Nokia and Staff's proposed constructions." Tr. (Richardson) at 143:23-144:16, 168:2-6. Accordingly, if either of Respondents' proposed constructions are adopted, VLC Version 0.7.2 (1) qualifies as prior art, (2) implements the accused H.264 standard, and (3) invalidates claims 8 and 10 if H.264 is found to infringe.

Finally, even if Nokia and the Staff's proposed constructions were adopted, claims 8 and 10 are invalid as obvious in view of MPEG-1 (JX-0061) alone¹, or in view of MPEG-1 in combination with Adolph (JX-0695).

¹ Claims 8 and 10 are also obvious in view of MPEG-1 alone if Respondents' proposed constructions are adopted.

8.a	A method for decoding a compressed video sequence, the method comprising:
8.b	decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of an independent sequence, wherein all motion compensated temporal prediction references of the independent sequence refer only to image frames within said independent sequence;
8.c	starting the decoding of the video sequence from said first image frame of the independent sequence, whereby the video sequence is decoded without prediction from any image frame decoded prior to said first image frame;
8.d	decoding identifier values for image frames according to a numbering scheme; and
8.e	resetting the identifier value for the indicated first image frame of the independent sequence.

	MPEG-1 Alone	MPEG-1 + Adolph
Independent Sequence	Closed GOP	Closed GOP
Indication of First Frame	closed_gop flag = 1	closed_gop flag = 1
Identifier Values	temporal_reference	temporal_reference or IP counter values
Resetting by the Decoder	Obvious: • Don't use leading B frames/ use only GOP that starts with I0 • Reset by decoder	Adolph expressly discloses resetting IP counter values by the decoder

RDX-0004C.154.

Each combination relies on MPEG-1's disclosure of independent sequences in the form of Closed GOPs, that are indicated by a "closed_gop" flag value set to 1. The difference between the combinations relates to the alleged "identifier values." For MPEG-1, Dr. Hemami explained that it would have been obvious for a modified MPEG-1 decoder to reset "temporal_reference" for the first image frame of a closed GOP. Adolph, on the other hand, expressly teaches "IP counter" values that are reset by the decoder for the first image frame of a closed GOP.

The disputes regarding these prior art combinations are very narrow. First, Nokia argues that the "closed_gop" flag cannot be the claimed indication because it is "information about a group of pictures, not about any one picture." Tr. (Richardson) at 1963:22-1964:2. This argument is identical to one already rejected by ALJ Elliot in the 1380 investigation. RX-1945.0056. And it was rejected for good reason. Specifically, in an error-free bitstream, it is undisputed that the closed_GOP flag is equal to 1 only when the *very next frame is "the first image frame, in decoding order, of an independent sequence."* Tr. (Richardson) at 1997:1-6 ("[f]ollowing the GOP header [that contains the closed_GOP flag] . . . there will be a series of coded pictures forming

a GOP in MPEG-1, and *the first one of those [in decoding order] will be first.*”). As such, Nokia’s argument must be rejected.

Second, for the MPEG-1 alone ground, Nokia argues that, while temporal_reference is reset, it is reset by the encoder, not the decoder, and it would not have been obvious for the decoder to reset temporal_reference. Nokia’s expert testimony on this point is conclusory and theoretical—with Dr. Richardson concluding that *he* “do[es]n’t understand why one would do this.” Tr. (Richardson) 1965:17-1969:19. But Dr. Hemami provided detailed analysis, pointing to MPEG-1 itself, other references available at the time, and her own objective analysis, showing that it would have been obvious to modify MPEG-1 such that the *decoder* not the encoder would reset temporal_reference. Tr. (Hemami) at 1089:9-1094:20; RDX-0004C.137-.143. Again, Nokia’s argument must be rejected.

Third, for the combination of MPEG-1 and Adolph, Nokia argues that the IP Counter values described in Adolph are not identifier values. Tr. (Richardson) at 1970:8-1971:2. But this argument ignores the ’321 Patent itself, which describes an implementation identical to the IP Counter values of Adolph as a preferred embodiment of identifier values: “According to a preferred embodiment . . . image frames can be independently numbered using consecutive numbering in which *successive reference image frames in the coding order are indicated with numbers incremented by one.*” JX-0010 at 13:22-29. Nokia’s argument cannot be reconciled with the express disclosures of the ’321 Patent and must be rejected.

For these reasons, the ’321 Patent should be found invalid.

A. Claim Construction

As set forth in the parties’ Joint Post-*Markman* Hearing Claim Construction Chart, the parties dispute the constructions of two terms of the ’321 Patent, both of which have been briefed

and were argued at the January 14, 2026 *Markman* Hearing. The disputed terms and constructions are set forth below.

Claim Term	Nokia's Proposed Construction	Respondents' Proposed Construction	Staff's Proposed Construction
"the identifier value"	Plain and ordinary meaning, which means an identifier value associated with the indicated first image frame of the independent sequence.	one of the decoded identifier values	An identifier value associated with the indicated first image frame of the independent sequence
"reset/resetting"	Plain and ordinary meaning, which means set[ting] the identifier value for the first time or set[ting] the identifier value again to restart the numbering scheme.	Set[ting] the identifier value again	Plain and ordinary meaning, which means set[ting] the identifier value for the first time or set[ting] the identifier value again to restart the numbering scheme.

In each case, Nokia and the Staff's constructions seek to rewrite the express claim language—either by removing the “the” in “the identifier value” and replacing it with “an,” or by removing the “re-” in reset[ting]. Respondents’ proposed constructions should be adopted because they give meaning to the patentee’s selected claim terms and are consistent with the intrinsic and extrinsic evidence and the relevant case law.

With respect to “the identifier value,” Respondents’ proposed construction applies the law of antecedent basis. Here, the immediately preceding limitation in the claim recites “decoding identifier values for image frames.” JX-0010 at cl. 8, 10. Thus, the term “*the* identifier value [for the indicated first image frame]” necessarily refers to one of the decoded identifier values. *See Harris Corp. v. Fed. Exp. Corp.*, 502 Fed. Appx. 957, 963 (Fed. Cir. 2013) (emphasis added); *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1356 (Fed. Cir. 1999) (holding that “the discharge rate” refers back to the earlier recitation of “a discharge rate”); *SIMO Holdings Inc. v. Hong Kong uCloudlink Network Tech. Ltd.*, 983 F.3d 1367, 1375 (Fed. Cir. 2021).

At the *Markman* hearing, Nokia argued that the use of “the” does not require antecedent basis. But that misstates the law—the use of “the” does not require an *explicit* antecedent basis, but if not explicit, the antecedent basis must be inherent. *See* CDXM-0078, -0079 (“[I]nherent components of elements have antecedent basis in the recitation of the elements themselves.”).

Here, there is no “inherent” antecedent basis because an image frame does not inherently include an identifier value—it can have no identifier value or multiple different identifier values. As such, the only possible antecedent basis is the one expressly provided in the claims. Moreover, Nokia cites no case law in which an express antecedent basis is provided in a claim, but the later use of “the” does not refer to that express antecedent basis. As such, Respondents’ proposed construction of “the identifier value” should be adopted.

With respect to “reset[ting],” Nokia and the Staff’s proposed constructions read out the “re-” prefix, and argue that “resetting” can include “setting for the first time.” Again, Respondents’ proposed construction, in which “resetting” means “setting again,” applies the patentee’s actual choice of words and should be adopted.

First, Respondents’ proposed construction of “resetting” is consistent with the claim language, despite Staff’s arguments otherwise. Under the proposed claim language, the “identifier value” is “set for the first time” in the prior limitation, when it is “decoded.” Thus, “resetting” means setting the identifier value *again*, not for the first time.

Second, Respondents’ proposed construction is consistent with the use of “resetting” in the specification. Both Nokia and the staff argue that the specification uses “set” and “reset” interchangeably. But this is not true. Outside of the claims, the specification uses the word “reset” only a single time:

According to an embodiment, identifier values for pictures are encoded according to a numbering scheme, and the identifier value for the indicated first picture of an independent sequence is reset, preferably to zero.

JX-0010 at 4:42-45. This usage is consistent with Respondents’ proposed construction—where the identifier value is first set, when it is “encoded” into the bitstream, only after which it is “reset.” *Id.* While the specification describes “setting” an identifier value to zero at other points—including

situations where the identifier value has not previously been set (*see, e.g., id.* at 11:26-40)—the patentee *specifically chose* to claim “resetting” not “setting.” Respondents’ proposed construction gives meaning to this word choice, while Nokia and the Staff’s proposed constructions ignore it.

Finally, Nokia has relied heavily on the definition of “reset” from *The Merriam-Webster Dictionary*, in support of its arguments. *See* CXM-0002. But Nokia misunderstands the definition provided—which defines “reset” as “to set again or anew.” *Id.* Nokia argues that “to set . . . anew” has a different meaning than “to set again,” which is consistent with Nokia’s proposed language “setting for the first time.” Nokia is simply wrong. *Merriam-Webster’s* definition of “anew” is “for an additional time; again.” *See* <https://www.merriam-webster.com/dictionary/anew>. As such, to “set anew” means exactly the opposite of “setting for the first time.” Instead, it means “to set for *an additional time*” or “to set *again*” which is consistent with Respondents’ construction, not Nokia or the Staff’s construction. Accordingly, the extrinsic evidence supports Respondents’ proposed construction, which should be adopted.

As explained above, if either of Respondents’ proposed constructions are adopted, there is no evidence of (1) infringement (Tr. (Chrissan) at 515:25-516:6), or (2) priority to the Finnish application (Tr. (Richardson) at 167:21-168:1) invalidating claims 8 and 10 in view of VLC.

B. Validity

As described above, and set forth in additional detail below, claims 8 and 10 of the ’321 Patent are invalid as obvious in view of the prior art. In order to conduct its analysis, Dr. Hemami identified the specific limitations of the Asserted Claims, as set forth below (with the highlighted limitations being those disputed by Nokia:

8.a	A method for decoding a compressed video sequence, the method comprising:	10.a	A video decoder comprising at least one processor and at least one memory including computer program code, the at least one memory and the computer program code configured to, with the at least one processor, cause the video decoder to decode a compressed video sequence, by causing the video decoder to at least:
8.b	decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of an independent sequence, wherein all motion compensated temporal prediction references of the independent sequence refer only to image frames within said independent sequence;	10.b	decode from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of an independent sequence, wherein all motion-compensated temporal prediction references of the independent sequence refer only to image frames within said independent sequence;
8.c	starting the decoding of the video sequence from said first image frame of the independent sequence, whereby the video sequence is decoded without prediction from any image frame decoded prior to said first image frame;	10.c	start the decoding of the video sequence from said first image frame of the independent sequence, whereby the video sequence is decoded without prediction from any image frame decoded prior to said first image frame; and
8.d	decoding identifier values for image frames according to a numbering scheme; and	10.d	decode identifier values for image frames according to a numbering scheme; and
8.e	resetting the identifier value for the indicated first image frame of the independent sequence.	10.e	reset the identifier value for the indicated first image frame of the independent sequence.

RDX-0004C.126.

Respondents' first two invalidity grounds are based on the teachings of MPEG-1 as the primary reference. During the 1380 Investigation, ALJ Elliot found that each limitation of claims 8 and 10 was literally disclosed in MPEG-1 except for limitations [8e]/[10e] (the resetting limitation). RX-1945 (337-TA-1380 Initial Determination) at 49-56. Specifically, ALJ Elliot noted that in MPEG-1, it was the encoder that reset the identifier value, and that "there is no . . . disclosure of a *decoder* performing the [resetting] activity." *Id.* at 54. And while Respondents nominally argued that having the decoder perform the reset was obvious, ALJ Elliot noted that the obviousness testimony was "conclusory" and dismissed it without analysis. *Id.* at 56.

Here, Respondents, and Dr. Hemami have provided detailed, clear, and convincing evidence demonstrating why it would have been obvious to modify MPEG-1 either alone, or in view of Adolph such that the decoder would reset the identifier value—meeting each and every limitation of claims 8 and 10. ALJ Elliot did not have the benefit of this obvious analysis in the 1380 Investigation. He did not have the opportunity to hear Dr. Hemami's detailed obviousness explanation with respect to MPEG-1 alone. And he was not presented with the Adolph reference,

which was not at issue in the 1380 Investigation. Here, the evidence demonstrates that claims 8 and 10 of the '321 Patent are invalid.

In order distinguish the '321 Patent from MPEG-1, Nokia and Dr. Richardson presented an invention story about “reference picture selection.” Tr. (Richardson) 1952:23-1955:4. According to Dr. Richardson, the '321 Patent “was trying to address a problem particularly with what was called reference picture selection, which was a flexible method of picking reference pictures for prediction.” *Id.* at 1953:4-8. Dr. Richardson argued that MPEG-1 had a “somewhat constrained structure,” and that in order to solve the issue with random access in reference picture selection, the '321 patent “is about identifying a new type of picture called an IDR picture.” *Id.* at 1954:19-25. The problem with this narrative is that *it has absolutely nothing to do with the claims.* As Dr. Richardson himself admitted the claims are not directed to “reference picture selection.” Tr. (Richardson) at 2003:10-14. Nor do the claims require an IDR picture. *See* JX-0010 at cl. 8, 10. When *claims 8 and 10* of the '321 Patent are compared to the claim language itself, the evidence demonstrates that they are invalid.

1. Claims 8 and 10 of the '321 Patent Are Obvious in View of MPEG-1 Alone

MPEG-1 was available as a printed publication by at least August 1, 1993 and qualifies as prior art to the '321 Patent under at least pre-AIA 35 U.S.C. § 102(a) and (b). JX-0061. The prior art status of MPEG-1 is not disputed.

Dr. Hemami provided a summary of her obvious positions with respect to MPEG-1, which identified the key concepts found in MPEG-1 that are relevant to her analysis, including closed Groups of Pictures (GOPs), the “closed_gop” flag, and “temporal_reference”:

8.a	A method for decoding a compressed video sequence, the method comprising:
8.b	decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of an independent sequence, wherein all motion compensated temporal prediction references of the independent sequence refer only to image frames within said independent sequence;
8.c	starting the decoding of the video sequence from said first image frame of the independent sequence, whereby the video sequence is decoded without prediction from any image frame decoded prior to said first image frame;
8.d	decoding identifier values for image frames according to a numbering scheme; and
8.e	resetting the identifier value for the indicated first image frame of the independent sequence.

	MPEG-1 Alone
Independent Sequence	Closed GOP
Indication of First Frame	closed_gop = 1
Identifier Values	temporal_reference
Resetting by the Decoder	Obvious: • Don't use leading B frames/ use only GOP that starts with IO • Reset by decoder

RDX-0004C.125.

Specifically, MPEG-1 describes (i) I-pictures, which are coded without reference to other pictures; (ii) P-pictures, which are coded using motion-compensated prediction from a prior I- or P-picture; and (iii) B-pictures, which are coded using motion-compensated prediction from past and/or future I- or P-pictures. JX-0061 at D.2.3; *id.* at 2.1.121; Tr. (Hemami) at 1075:19-1076:16. It also notes that because B-pictures may depend on future reference pictures, the decoding order for the image frames may be different than display order. Tr. (Hemami) at 1076:17-1078:7. To keep track of the display order, MPEG-1 assigns each picture a temporal_reference value that defines display order. The temporal_reference is included in the picture header, decoded from the bitstream, and reset to zero for the first picture in display order of each GOP, incrementing by one for each subsequent picture. JX-0061 at D.5.3.2; *id.* at 2.4.3.4.

MPEG-1 organizes pictures into Groups of Pictures (GOPs), defined as “[a] series of one or more coded pictures intended to assist random access.” JX-0061 at 2.7.71; Tr. (Hemami) at 1078:14-1079:19. A GOP is “the smallest coding unit that can be independently decoded within a sequence,” consisting of a header and some number of pictures. JX-0061 at D.2.3. MPEG-1 requires that the first coded picture in a GOP is an I-picture, and that the last coded picture in

display order is an I-picture or P-picture. JX-0061 at 2.4.1. MPEG-1 further explains that a closed GOP is encoded “without motion vectors pointing to the previous group of pictures” and can be decoded without using decoded pictures from the prior GOP for motion compensation. JX-0061 at 2.4.3.3; *id.* at D.5.2. Because I- and P-pictures cannot depend on reference pictures in subsequent GOPs, and because B-pictures may reference only the nearest adjacent I- or P-pictures in display order, a closed GOP cannot refer to any subsequent GOPs for reference—making the closed GOP an independent sequence. JX-0061 at D.2.3; *id.* at 2.1.121. Moreover, GOPs in MPEG-1 can consist solely of I-pictures. Tr. (Hemami) at 1078:14-1078:6; Tr. (Richardson) at 1997:12-1998:22. As set forth on a limitation-by-limitation basis below, claims 8 and 10 are obvious in view of MPEG-1 alone.

a) Limitations 8[a]/10[a] - The Preamble Limitations

To the extent the preamble is limiting, MPEG-1 expressly discloses “a method for decoding a compressed video sequence.” Tr. (Hemami) at 1085:12-21; RDX-0004C.127. MPEG-1 specifies the syntax for a coded video bitstream, describes the coded video sequence as a format for compressed digital video, and specifies the decoding process for that bitstream. *Id.*; JX-0061.016 at Section 0.5; *id.* at .068 (D.2); *id.* at .018 (Section 1.1). Thus, limitation 8[a] is met, which is not disputed by Nokia or Staff.

With respect to claim 10, MPEG-1 further teaches that the decoding process may be implemented in a decoder. JX-0061.073 at D.2.4; *see also id.* at 0.4; Tr. (Hemami) 1095:8-1096:1; RDX-0004C.147. A POSITA therefore would have understood that implementing MPEG-1 decoding necessarily requires at least one processor and memory storing computer program code configured to cause the decoder to decode a compressed video sequence, as recited in limitation 10[a], which is not disputed by Nokia or Staff. Tr. (Hemami) 1095:8-1096:1; RDX-0004C.147.

b) Limitations 8[b]/10[b] - Decoding an Indication of the First Frame of an Independent Sequence

As discussed above, MPEG-1's closed GOPs are independent sequences in which all motion-compensated prediction references remain internal to the GOP. Tr. (Hemami) at 1085:22-1086:9; RDX-0004C.124; JX-0061.036 at 2.4.3.3; *id.* at .086 (D.5.2). Nokia does not dispute that a closed GOP is an independent sequence.

The only dispute regarding limitations 8[b]/10[b] relates to whether MPEG-1 teaches an “indication of *at least one* image frame, which is the first image frame of the independent sequence.” As Dr. Hemami explained, MPEG-1 further teaches “decoding from the video sequence an indication” of the first image frame of such an independent sequence via the `closed_gop` flag. Tr. (Hemami) 1086:10-1087:13.

As Dr. Hemami explained, the `closed_gop` flag is decoded by the decoder from the GOP header, and when set to 1, indicates that the *next picture in the bitstream* is the first picture of a closed GOP in decoding order. Tr. (Hemami) 1086:10-1087:13. This is necessitated by the syntax of MPEG-1, which requires that each GOP always begins with a GOP header containing the `closed_gop` flag. *Id.*; JX-0061 at D.5.2; JX-0061.037 at 2.4.2.4.

Each GOP in MPEG-1 includes a flag (the `closed_gop` flag) that indicates whether a GOP is open or closed

`closed_gop` flag

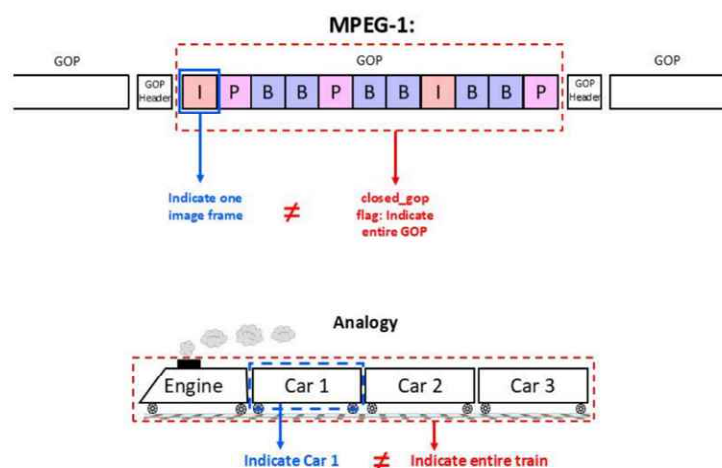
If Value Is:	Then GOP Is:
0	Open
1	Closed

2.4.2.4 Group of pictures layer	
Syntax	No. of bits
group_of_pictures() {	
group_start_code	32
time_code	25
closed_gop	1
broken_link	1
next_start_code()	
if (nextbits() == extension_start_code) {	
extension_start_code	32
while (nextbits() != '0000 0000 0000 0000 0001') {	
group_extension_data	8
}	
next_start_code()	
}	
if (nextbits() == user_data_start_code) {	
user_data_start_code	32
while (nextbits() != '0000 0000 0000 0000 0001') {	
user_data	8
}	
next_start_code()	
}	
do {	
picture()	
} while (nextbits() == picture_start_code)	
}	

JX-0061.037 (MPEG-1) at 2.4.2.4

RDX-0004C.129. MPEG-1 does not permit repeating a GOP header within a GOP, and a GOP always starts with an I-picture in decoding order. *Id.* Thus, it is undisputed, that according to the syntax of MPEG-1, the closed_gop flag is always followed by a series of image frames ***in decoding order***, and the first frame following the flag ***is the first frame of the GOP in decoding order***. Tr. (Hemami). Tr. (Richardson) at 1997:1-6 (“[f]ollowing the GOP header [that contains the closed_GOP flag] . . . there will be a series of coded pictures forming a GOP in MPEG-1, and ***the first one of those [in decoding order] will be first.***”). Thus, MPEG-1 teaches an “indication of *at least one* image frame, which is the first image frame of the independent sequence.”

Nokia attempts to argue that the “closed_gop” flag cannot be the claimed indication because it is “information about a group of pictures, not about any one picture.” Tr. (Richardson) at 1963:22-1964:2. But this argument is non-sensical. First, while the closed_gop flag is located in the GOP header (not the picture header), there is no requirement in the claims that the “indication” be located in any specific structure, and the patent itself envisions the indication being located in various header fields. Tr. (Hemami) 1087:14-23; JX-0010 at 2:34–37; 14:49–52. Moreover, Nokia made this same exact argument in the 1380 Investigation, and it was soundly rejected by ALJ Elliot. RX-1945.0056-.57. Indeed, Dr. Richardson’s own demonstratives demonstrate why the closed_gop flag is an indication of the first frame in decoding order of an independent sequence. CDX-11.121 (right). As shown in the “analogy” to the right, an indication that a train engine is a coal train engine means



that the very next car (Car 1) is the first car of a coal train. Similarly, an indication in the GOP header of a closed GOP (e.g., closed_GOP flag = 1) is an indication *that the very next frame* (the “I” frame in blue) is necessarily *the first frame in decoding (or bitstream) order of an independent sequence*. This is exactly what ALJ Elliot found in the 1380 Investigation, and the same conclusion should be reached here. RX-1945.056-.057.

Nokia also argues that the closed_gop flag cannot be an “indication” because of potential “errors” in the bitstream that would result in something other than the first frame in decoding order following the closed_gop flag. Tr. (Richardson) at 1965:7-16. This argument fails. Nothing in the claims requires the “indication” to be error proof. *See* JX-0010 at cl. 8. Indeed, given that bitstream errors can always occur, under Nokia’s theory, nothing could ever be an “indication.” Consider the “indication” that Nokia points to for H.264 (the nal_unit_type = 5, for an IDR picture). CDX-5C.37 (citing CX-2596.113). Five is represented using five digits in binary as 00101. A simple bitstream error could result in a non-IDR picture (e.g., nal_unit_type = 1, binary 00001) being given a nal_unit_type value of 5 simply with an error in a single digit. Under Nokia’s theory, the possibility of such an error would mean that a nal_unit_type = 5 is *not* an indication of the first image frame of an independent sequence, because it could be received by the bitstream even for a non-IDR picture. Such a result is nonsensical.

Here, the syntax of MPEG-1 requires that the first image frame following a closed_GOP flag = 1 is the first image frame, in decoding order, of an independent sequence. Tr. (Richardson) at 1997:1-6. This express disclosure in MPEG-1 is sufficient to meet the claim language. *See Bell Commc’n Research, Inc. v. Vitalink Commc’n Corp.*, 55 F.3d 615, 622-23 (Fed. Cir. 1995) (holding an accused device that “sometimes, but not always, embodies a claim[] nonetheless

infringes”); RX-1945.057 (finding invalidity because “the limitation is met at least some of the time”). Accordingly, MPEG-1 discloses the requirements of limitations 8[b] and 10[b].

c) Limitations 8[c]/10[c] - Starting the Decoding of the Video Sequence from the First Frame

MPEG-1 expressly teaches limitations 8[c] and 10[c]. MPEG-1 teaches beginning decoding at random access points, including the beginning of a closed GOP. JX-0061.120 at D.7.1.1; Tr. (Hemami) at 1088:2-9. When decoding begins at a closed GOP, MPEG-1 teaches that decoding proceeds without using motion-compensated prediction from pictures decoded prior to the first picture of the closed GOP. *Id.*; JX-0061.084 at D.5.2. Accordingly, MPEG-1 discloses the requirements of limitations 8[c] and 10[c], which is not disputed by Nokia or Staff.

d) Limitations 8[d]/10[d] - Decoding Identifier Values

MPEG-1 expressly discloses limitations 8[d] and 10[d]. Specifically, MPEG-1 teaches an identifier value, called `temporal_reference`, that is located directly in the bitstream and is decoded by the decoder for each image frame. *See* JX-0061.087 at D.5.3.2; *id.* at .044 (2.4.3.4), .038 (2.4.2.5); Tr. (Hemami) at 1088:10-24. The `temporal_reference` value is decoded according to a numbering scheme representing the display order of the image frames in a GOP. *Id.* Nokia has not disputed that `temporal_reference` is a decoded identifier value.

e) Limitations 8[e]/10[e] - Resetting the Identifier Value of the First Frame

MPEG-1 expressly teaches that the `temporal_reference` value is reset to zero for the first frame in display order of a GOP, including for each closed GOP. JX-0061.087 at D.5.3.2; *see also id.* at .044 (2.4.3.4) (“For the earliest picture (in display order) in each group of pictures, the temporal-reference is reset to zero.”). While MPEG-1 does not expressly teach that a *decoder* would reset the `temporal_reference` of the first frame in decoding order of a closed GOP to zero,

it would have been obvious to a POSITA to create a modified (and more error-resilient) version of MPEG-1. Tr. (Hemami) at 1089:9-1095:7. And this obvious modified version of MPEG-1 would have met the requirements of limitations 8[e] and 10[e]. *Id.*

First, as Dr. Hemami explained, MPEG-1 teaches that there are two different forms for constructing a closed GOP: (1) “omit[ting] any B-pictures preceding the first I-picture” or (2) “allow[ing] such B-pictures, but to code them using only backward motion compensation.” JX-0061.085 at D.5.2; Tr. (Hemami) 1079:20-2080:17. These two forms are shown below, with the form without leading B-pictures described as the “typical example” and the second form describes as “less typical”:

A typical example of a closed group is shown in figure D.18a.

I	B	B	P	B	B	P	B	B	P	B	B	P
0	1	2	3	4	5	6	7	8	9	10	11	12

(a) closed group

B	B	I	B	B	P	B	B	P	B	B	P	B	B	P
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

(b) open or closed group

Figure D.18 -- Example groups of pictures in display order

A less typical example of a closed group is shown in figure D.18b. In this example, the B-pictures which precede the first I-picture must use backward motion compensation only, i.e. any motion compensation must be based only on picture number 2 in the group.

JX-0061.085 at D.5.2.

Step 1 of Dr. Hemami’s obvious analysis is that (1) it would have been obvious to a POSITA to create or implement a modified version of MPEG-1 that only permitted the first form of closed GOPs—closed GOPs **without leading B frames** (Figure D.18(a)). Tr. (Hemami) at 1090:2-1092:22. As a result of Step 1, the first frame in decoding order of the closed GOP (e.g., the first I frame), will *always necessarily have a temporal_reference* value equal to 0. Tr. (Hemami) at 1089:9-22. Therefore, Dr. Hemami explained, since the first frame of the closed GOP will always necessarily have a temporal_reference value equal to 0, it would have been obvious to

a POSITA to have *the decoder* automatically set that value to 0 using one of two methods. Tr. (Hemami) at 1092:3-1095:7.

Dr. Richardson argued, in a conclusory manner, that Step 1 is not obvious because “there’s no need to rewrite or redesign a decoder so that it’s not standard-compliant.” Tr. (Richardson) at 1069:5-19. But Dr. Hemami explained, in detail, exactly why such modifications are obvious.

As an initial point, Dr. Richardson’s suggestion that it would never be obvious to modify a standard to make a decoder “not standard-compliant” cannot be reconciled with the evidence. As Dr. Hemami explained, “this type of thing is something that [she] did regularly with [her] students and in[her] Ph.D. thesis for [her] research.” Tr. (Hemami) at 1189:12-18. Indeed, the way you improve standards to achieve new, better standards is to make modifications to those standards so that the modified decoder is not standard compliant. *See e.g.*, JX-0696 (Morimatsu, a modified prior art MPEG-1 decoder), JX-0695 (Adolph, a modified prior art MPEG-1 decoder).

Here, Dr. Hemami provided clear and convincing evidence demonstrating why it would have been obvious to modify MPEG-1 to use only closed GOPs with no leading B frames: (1) MPEG-1 itself identifies that form as the “typical” format for closed GOPs, (2) closed GOPs that have leading B frames are less efficient, and (3) the exact modification (using no leading B frames) was known in other prior art references (*e.g.*, Morimatsu).

First, MPEG-1 itself explains the motivation for such a combination: closed GOPs without leading B-pictures described as the “typical example” and while closed GOPs with leading B-pictures are described as “less typical.” JX-0061.085 at D.5.2. It would have been obvious to remove the “less typical” or “less favored” form of closed GOPs (with leading B-pictures) as an option. *See* Tr. (Hemami) at 1090:5-24. Second, an additional motivation for modifying MPEG-1 to remove closed GOPs with leading B-pictures is because that form of closed GOP is less efficient

from a computational standpoint. *See* Tr. (Hemami) at 1090:25-1092:22. Dr. Hemami performed a simple quantitative analysis that showed that closed GOPs with leading B-pictures (which can only be predicted from a single frame) lose the computational efficiency that makes B-pictures valuable, because they have more “Effective P-Pictures” and fewer traditional “B” Pictures. *Id.*; RDX-0004C.139. This testimony regarding computational efficiency is unrebutted, and explains why a POSITA would have been motivated to remove the option to use closed GOPs with leading B-pictures. Finally, Dr. Hemami explained that there were actual prior art examples of modified MPEG-1 decoders that used only closed GOPs with no leading B-pictures, including U.S. Patent N. 6,917,648 (“Morimatsu”). Tr. (Hemami) at 1081:16-1083:1; JX-0696 (Morimatsu); RDX-0004C.121-.122. This actual example further supports that it would have been obvious to modify an MPEG-1 decoder to use only closed GOPs without leading B-frames. Thus, Respondents and Dr. Hemami provided clear and convincing evidence to support Step 1 of Dr. Hemami’s analysis.

While Nokia and Dr. Richardson also provided conclusory arguments in an attempt to rebut Step 2 of Dr. Hemami’s analysis (*see e.g.*, Tr. (Richardson) at 1966:7-1968:18), that testimony should be stricken for the reasons set forth in Respondents’ Motion to Strike Portions of Dr. Richardson’s Testimony (Doc. ID 876078, Motion 1448-032).² Regardless, Nokia and Dr. Richardson’s arguments are without merit and should be rejected.

² Both Nokia and Staff oppose Respondents’ Motion and purport to cite portions of Dr. Richardson’s report containing the alleged opinions. *See* Staff’s Opposition (Doc. ID 876212); Nokia’s Opposition (Doc. ID 876271). Nokia and Staff’s oppositions miss the point of Respondents’ Motion, because *Dr. Richardson never addressed, opined on, or commented about either of Dr. Hemami’s Method (i) or Method (ii) in his expert report.* *See* Motion 1448-032 at Ex. 4. While Nokia and Staff point to portions of Dr. Richardson’s report where he made used similar language as disputed testimony, in each instance, the language from his report related to the first part of Dr. Hemami’s analysis—whether it would be obvious to use only closed GOPs with no leading B-frames. Importantly, neither Nokia nor Staff can point to a

As Dr. Hemami explained, the necessary result of Step 1, is that the first frame in decoding order of each closed GOP is also the first frame in display order, and would necessarily have a temporal_reference of zero. Tr. (Hemami) at 1089:9-22. Given this uncontroverted fact—that the first frame in decoding order of closed GOP with no leading B frames *always* has a temporal_reference of zero, *there is simply no need to read temporal_reference from the bitstream for that frame*. Instead, a POSITA would have understood that *a decoder could automatically reset temporal_reference to zero* for the first frame following a closed_gop flag set to 1 in the bistream. Tr. (Hemami) at 1092:3-1095:7. Dr. Hemami provided two methods demonstrating how this “resetting,” performed by a decoder, could have been implemented. *Id.* RDX-0004C.140-.143. Each of these methods would have been obvious to a POSITA and meet the “resetting” limitation *Id.*

Dr. Richardson raises some theoretical conclusory arguments with respect to both Method (i) and Method (ii)—including that (1) the decoder still has to parse temporal_reference, (2) that there are “certain bitstream errors” that the decoder could not handle, (3) that an initial I-picture could not be decoded without a GOP header, (4) that Dr. Hemami is using hindsight to rewrite MPEG-1, and (5) that the decoder is no longer an MPEG-1 decoder. Tr. (Richardson) at 1966:7-1968:18. But these alleged theoretical problems with Dr. Hemami’s analysis ignore Dr. Hemami’s testimony that these modifications “take an implementation of the standard and modify[] it in a way that a person of ordinary skill would do.” Tr. (Hemami) at 1189:12-18. Moreover, as Dr. Hemami explained: “this type of thing is something that I regularly did with my students and in

single instance from Dr. Richardson’s report where he (1) mentions Dr. Hemami’s Method (i) or Method (ii), or (2) cites a single paragraph from Dr. Hemami’s report related to Method (i) or Method (ii). Accordingly, Dr. Richardson’s testimony about Method (i) and Method (ii) should be stricken.

my Ph.D. thesis for my research. *Id.* Regardless of any theoretical issues that Dr. Richardson raised, Dr. Hemami’s testimony confirms that it would have been obvious to a POSITA to make these modifications, and that a POSITA would have a reasonable expectation of success. This is all that is necessary to demonstrate obviousness.

Accordingly, MPEG-1 renders the requirements of limitations 8[e] and 10[e] obvious.

2. MPEG-1 + Adolph

Respondents’ second obviousness ground combines the teachings of MPEG-1 with a second prior art reference, U.S. Patent Publication No. 2001/0048805A1 (“Adolph”). Adolph was filed on June 9, 1998 and published on December 6, 2001, and therefore qualifies as prior art to the ’321 Patent under at least pre-AIA 35 U.S.C. §§ 102(a) and (e). JX-0695.

It would have been obvious to a POSITA to combine the teachings of Adolph with MPEG-1—which is not disputed by Nokia or Staff. Tr. (Hemami) at 1096:13-20. Adolph expressly references the MPEG-1 and MPEG-2 standards and explains that those standards “provide virtually a hierarchical division of the video data,” including the “so-called Group of Pictures (GOP).” JX-0695 at [0002], [0004]–[0005]; Tr. (Hemami) at 1096:13-20. Adolph is directed to “robustness” methods for correctly displaying video sequences even when errors occur in the decoded bitstream, particularly where GOP header information is missing or corrupted. Tr. (Hemami) at 1096:21-1097:9; JX-0695 at Abstract. Adolph explains that its invention allows correct display even if a GOP header is omitted and temporal reference codes in the bitstream would otherwise signal an incorrect display order. Tr. (Hemami) at 1096:21-1097:9; JX-0695 at Abstract; [0005].

To solve this problem, Adolph teaches modifying the decoder to apply new identifier values—called IP counter values—based on picture types decoded from the bitstream, thereby

allowing the decoder to reconstruct correct display order even when GOP header information is missing. JX-0695 at [0030], [0032]; Tr. (Hemami) at 1097:10-1098:25. Dr. Hemami testified that a POSITA would have been motivated to incorporate these teachings into an MPEG-1 decoder, and a POSITA would have had a reasonable expectation of success because Adolph's approach is straightforward and expressly intended for use with "MPEG-similar" decoders. JX-0695 at [0041]; Tr. (Hemami) at 1096:13-20. Indeed, Nokia has not disputed that it would have been obvious for a POSITA to combine MPEG-1 and Adolph.

Dr. Hemami set forth a summary of MPEG-1 in combination with Adolph as shown below:

8.a	A method for decoding a compressed video sequence, the method comprising:			
8.b	decoding from the video sequence an indication of at least one image frame, which is the first image frame, in decoding order, of an independent sequence, wherein all motion compensated temporal prediction references of the independent sequence refer only to image frames within said independent sequence;	Independent Sequence	Closed GOP	Closed GOP
8.c	starting the decoding of the video sequence from said first image frame of the independent sequence, whereby the video sequence is decoded without prediction from any image frame decoded prior to said first image frame;	Indication of First Frame	closed_gop flag = 1	closed_gop flag = 1
8.d	decoding identifier values for image frames according to a numbering scheme; and	Identifier Values	temporal_reference	temporal_reference or IP counter values
8.e	resetting the identifier value for the indicated first image frame of the independent sequence.	Resetting by the Decoder	Obvious: - Don't use leading B frames/ use only GOP that starts with I0 - Reset by decoder	Adolph expressly discloses resetting IP counter values by the decoder

RDX-0004C.154. As is apparent, the combination of MPEG-1 with Adolph applies the same analysis as MPEG-1 alone for each of limitations 8[a]/10[a], 8[b]/10[b], and 8[c]/10[c]. However, it relies on an additional identifier value—the IP counter values—for limitations 8[d]/10[d] and 8[e]/10[e]. As set forth below, this combination renders claims 8 and 10 obvious.

a) MPEG-1 in Combination With Adolph Renders Limitations 8[a]/10[a], 8[b]/10[b], and 8[c]/10[c] Obvious for the Same Reasons as MPEG-1 Alone

With respect to limitations 8[a]/10[a], 8[b]/10[b], and 8[c]/10[c], the combination of MPEG-1 and Adolph discloses those limitations for the same reasons as described above with

respect to MPEG-1 alone. Tr. (Hemami) at 1099:1-14. MPEG-1 and Adolph in combination would use the same closed GOP as an independent sequence, the same closed_gop flag as the indication, and would start decoding at, e.g., the beginning of a closed GOP, for the same reasons as discussed above with respect to MPEG-1 alone. *Id.* See Section II.B.1.a, b., and c. While Nokia and Dr. Richardson challenge limitations 8[b]/10[b] for the same reasons as with respect to MPEG-1 alone (see Tr. (Richardson) at 1969:21-1970:7), this argument was already rejected by ALJ Elliot in the 1380 Investigation, and should be rejected here for the same reasons.

b) Limitations 8[d]/10[d] - Decoding Identifier Values

The combination of MPEG-1 and Adolph renders this limitation obvious for two reasons. First, the combination of MPEG-1 and Adolph teaches decoding temporal_reference values, as discussed above with respect to MPEG-1 alone. See Section II.B.1.d. Nokia does not dispute that temporal_reference is a decoded identifier value. See e.g., Tr. (Richardson) at 1971:15-1972:10 (arguing with respect to temporal reference that “the decoder doesn’t reset temporal referene”). Moreover, as Nokia’s proposed claim construction does not require the “decoded” and “reset” identifier values to be the same values, the “decoding identifier values” limitation is met regardless of any argument with respect to the IP counter values described below.

However, as mentioned above, the combination of MPEG-1 and Adolph discloses an additional identifier value—its IP counter values. JX-0695 at [0030], [0032]. Nokia raises two arguments with respect to the IP counter values in Adolph: (1) Nokia argues that they are not “identifier values” as required by the claims (Tr. (Richardson) at 1970:18-1971:2), and (2) Nokia argues that they are not “decoded” (Tr. (Richardson) at 1970:9-16). Each of Nokia’s arguments must be rejected.

First, as explained by Dr. Hemami, the IP counter values are used by the decoder to determine the correct display order for the image frames—and meet the claimed “identifier values” requirement. *See* Tr. (Hemami) at 1096:21-1100:8. First, despite Dr. Richardson’s suggestion otherwise, the IP counter values are not simply a “tally counter.” Tr. (Richardson) at 1959:25-1961:4. Rather, the decoder assigns, correlates, and stores IP counter values associated with each of the image frames in its memory buffer, including at least the last four image frames. *See* JX-0695 at [0033] (“Information items regarding the last four decoded pictures of the bit stream are continuously held.”); *id.* at Fig. 8, claims 5 and 7. These IP counter values must be associated with (and used to identify) individual pictures because *they are used to determine the display order* of the image frames in the buffer. Tr. (Hemami) at 1096:21-1100:8; JX-0695 at [0030] - [0038].

Second, the IP counter values described by Adolph are identical to a “preferred embodiment” of identifier values in the ’321 Patent—an embodiment that Dr. Richardson ignores. Tr. (Hemami) at 1099:16-1100:8. Indeed, Dr. Richardson argued that since the IP counter values increment only for I and P pictures, “the counter is remaining at [the same value] even though several frames have been received.” Tr. (Richardson) at 1960:13-1961:4. But nothing in the claims or specification of the ’321 Patent requires each identifier value to be unique. Indeed, the this IP counter is *identical* to the disclosure in the specification of a *preferred embodiment* of an identifier value which is incremented only on “reference image frames” (i.e., I and P pictures). JX-0010 at 13:22-29 (right); Tr. (Hemami) at 1099:16-1100:8. Nokia cannot

The identification of an individual image frame thus requires the layer number, sub-sequence identifier and image frame number to be determined. According to a preferred embodiment of the invention, the image frames can be independently numbered using consecutive numbering in which successive reference image frames in the coding order are indicated with numbers incremented by one.

reasonably argue that the IP counter values of Adolph are not “identifier values” when they are identical to a preferred embodiment in the specification. This is further supported by the fact that Nokia has pointed to another similar “identifier value” in its infringement contentions—

frame_num in H.264—in two separate ITC Investigations. *See* Nokia’s Pre-Hearing Brief at 28 (frame_num is a numbered identifier for image frames); RX-1945.50 (evaluating Nokia’s argument that frame_num is the identifier value). As Dr. Richardson’s own book explains, frame_num is incremented for I and P pictures only, such that it has repeated values for successive frames:

Slice	Type	Used for reference	<i>frame_num</i>	POC LSBs	Display order
1 st	I	Yes	0	0	0
2 nd	P	Yes	1	4	2
3 rd	B	No	2	2	1
4 th	P	Yes	2	8	4
5 th	B	No	3	6	3
6 th	P	Yes	3	12	6
7 th	B	No	4	10	5
8 th	P	Yes	4	16	8
...	...				

CX-6048.137 (showing 2 frames each with frame_num 2, 3, and 4); *see also* CX-6048.136 (“frame_num for each decoded picture increases by one compared with the previous reference frame”). Yet, no party has ever argued that frame_num is not an “identifier value.”³ In short, Nokia’s argument that the IP counter values are not identifier values is completely without merit.

Nokia argument that the IP counter values are not decoded because they are determined by the decoder, not the encoder (Tr. (Richardson) at 1970:9-16), must also be rejected as directly contrary to its own infringement analysis. Specifically, for each of H.264, H.265, and AV1, Nokia points to alleged “identifier values” (e.g., picture order count, PicOrderCntVal, and OrderHints) that are not “parsed from the bitstream” but are instead calculated by the decoder based on values in the bitstream. *See* Tr. (Chrissan) at 401:16-402:22 (explaining that picture order count is determined based on different values that are decoded from the bitstream), 405:1-19 (explaining

³ In the 1380 Investigation, ALJ Elliot found that although frame_num was an identifier value, it did not meet the resetting limitation because it was reset by the encoder, not the decoder. RX-1945.50.

that PicOrderCntVal is not “directly parsed from the bitstream” but is calculated based on other values”). Here, it is undisputed that the IP counter values are calculated based on a variable “picture_coding_type” that is found directly in an MPEG-1 bitstream. Tr. (Hemami) at 1100:9-23; RDX-0004C.156; JX-0061.038 at 2.4.2.5. Thus, Dr. Richardson conclusory argument that the IP counter values “are not part of the coded bitstream” (Tr. (Richardson) at 1972:4-6) is irrelevant. And Dr. Richardson’s assertion that the IP counter values “are not part of the decoding process specified in MPEG-1” is also irrelevant because decoding IP counter values is part of the decoding process specified by Adolph. JX-0695 at [0030], [0032]. Accordingly, the IP counter values of Adolph are decoded under Nokia’s understanding of “decoding.” MPEG-1 with Adolph renders limitations 8[d] and 10[d] obvious.

c) Limitations 8[e]/10[e] - Resetting the Identifier Value of the First Frame

Finally, MPEG-1 with Adolph renders obvious limitations 8[e] and 10[e]. It is undisputed that Adolph teaches resetting the IP counter after a GOP header has been correctly found. JX-0695 at [0030]; Tr. [Hemami] at 1100:24-1101:22. Nokia argues that resetting the IP counter values after a GOP header is somehow different than resetting the IP counter values for the first image frame in decoding order. *See* Tr. (Richardson) at 1971:4-13. As Dr. Richardson himself explained, this argument is based on the same premise as Nokia’s argument that the closed_gop flag is not an indication of a first frame because it is located in the GOP header. *See id.*; *see also* Section II.B.1.b.

Nokia’s argument must be rejected for the same reason: Specifically, as discussed above, under MPEG-1, each GOP begins with a GOP header, followed *immediately* by the first picture of the GOP in decoding order, which is always an I-picture. JX-0061 at 2.4.2.4; D.5.2. Thus, when Adolph teaches resetting the counters following the GOP header, the reset necessarily applies to the first image frame of the GOP. Tr. (Hemami) at 1100:24-1101:22. As shown in Adolph’s Figure

6, for the first picture of a GOP in decoding order, the IP counter will be one, regardless of whether leading B-pictures are present. JX-0695 at Fig. 6. As Dr. Hemami testified, this reset behavior—which is expressly performed by the decoder in Adolph—satisfies the claimed “resetting” requirement. Tr. (Hemami) at 1100:24-1101:22. Accordingly, MPEG-1 in combination with Adolph renders the requirements of limitations 8[e] and 10[e] obvious.

3. VLC Version 0.7.2

If either of Respondents’ constructions are adopted, the ’321 Patent is only entitled to a priority date of January 25, 2006—the filing date of the application leading to the ’321 Patent. Under this priority date, VLC Version 0.7.2 qualifies as prior art, and anticipates claims 8 and 10 if the claims are found to cover the H.264 standard.

a) Claims 8 and 10 of the ’321 Patent are Entitled to a January 25, 2006 Priority Date

Nokia argues that the ’321 Patent is entitled to a January 23, 2002 priority date corresponding to Finnish application 20020127. CX-6090. However, the requirement that the decoder perform a “resetting” step for identifier values was not described or enabled until the filing of the application that resulted in the ’321 Patent on January 25, 2006 (when one of the claims filed with the application included a requirement that the decoder reset the identifier).

In order to demonstrate that the Finnish application provides written description support for a decoder resetting an identifier value, Nokia points to paragraphs [0048] and [0049]. Yet, these paragraphs describe only “setting” (e.g., setting for the first time), and not “resetting” (setting again). *Id.* at [0048] - [0049]; Tr. (Richardson) at 145:9-16.

Indeed, it is undisputed that Nokia and Dr. Richardson found that claims 8 and 10 were supported by the Finnish application only under Nokia’s and Staff’s proposed constructions. *See* Tr. (Richardson) at 143:23-144:16, 168:2-6 (“Q. So you'd agree that if the ALJ adopts

Respondents' proposed construction, that the Finnish application would not establish priority for the '321 patent, correct? A. I haven't formed an opinion on that."), 168:7-169:4. Dr. Hemami confirmed that the Finnish application does not provide support for the "resetting" limitation under Respondents' proposed construction. Tr. (Hemami) at 1102:10-1103:11.

Accordingly, if Respondents' construction is adopted, claims 8 and 10 of the '321 Patent should be accorded a January 25, 2006 priority date.

b) VLC Version 0.7.2 Invalidates Claims 8 and 10 Due To Its Implementation of H.264

VLC Version 0.7.2 was available at least as of May 21, 2004, and thus qualifies as prior art to the '321 Patent (assuming a January 25, 2006 priority date) under at least pre-AIA 35 U.S.C. §§ 102(a). RX-4032; RX-1991; RDX-0004C.167-.168; Tr. (Hemami) at 1104:12-18. Importantly, VLC Version 0.7.2 implemented H.264 decoding. RX-4032; RX-1991; RDX-0004C.168; Tr. (Hemami) at 1104:19-21. While Respondents contend that Nokia has not demonstrated that the implementation of H.264 meets each and every limitation of claims 8 and 10, to the extent Nokia succeeds on its claim, then VLC version 0.7.2 invalidates those claims by implementing H.264.

4. Secondary Considerations

Nokia's expert, Dr. Richardson, failed to address or opine on any alleged evidence of secondary considerations in support of nonobviousness with respect to the '321 Patent. *See* Tr. (Richardson) at 1952:22-1975:8 (failing to mention any secondary considerations in his entire discussion of the '321 Patent). Dr. Hemami, however, pointed to testimony of Nokia's own corporate witness to demonstrate that there is no evidence of any secondary considerations. *See e.g.*, Tr. (Hemami) at 1104:2-1105:1.

Specifically, [REDACTED]

[REDACTED]

[REDACTED] JX-0021C (Dixit) at 112:5–13; 116:12–17. [REDACTED]

[REDACTED] JX-0021C (Dixit) at 116:18–117:11. [REDACTED]

[REDACTED] JX-0021C (Dixit) at 117:18–118:16. Accordingly, Nokia has failed to establish any nexus between the '321 Patent and any alleged commercial success, long-felt need, skepticism, unexpected results, failed attempts by others, industry recognition or praise, or copying associated with the H.264, H.265, or AV1 standards.

[REDACTED] JX-0021C (Dixit) at 113:1–114:3. [REDACTED]

[REDACTED] JX-0021C (Dixit) at 114:4–9. [REDACTED]

[REDACTED] *Id.*

Because Nokia has failed to demonstrate any nexus between the asserted claims of the '321 Patent and the alleged secondary considerations, and because Nokia's own witness confirms the absence of such evidence, secondary considerations do not support, and cannot overcome, the clear showing of obviousness of the Asserted Claims.

III. U.S. PATENT NO. 10,536,714

A. Claim Construction

The parties' positions are set forth in the parties' Joint Chart Setting Forth Post-Hearing Claim Constructions. Respondents proposed that "first spatial motion vector prediction candidate"

means “the spatial motion vector prediction candidate that is first for processing.” This is supported by Nokia’s own words: in distinguishing the prior art of Nakamura in response to an IPR petition, Nokia argued that the “first SMVP candidate” was the first *in an order for processing*. Specifically, Nokia argued, “Petitioner claims *that S1 is the first spatial motion vector prediction candidate*, even though Nakamura discloses that *S1 is derived after S0*, as shown in the figure below, which illustrates *the processing or check order (arrow) that generates S0 (the first candidate) followed by S1 (the second candidate)*.” *Amazon.com, Inc. v. Nokia Techs. Oy*, IPR2024-00604, Paper 22 at 60 (PTAB Jan. 30, 2025).

B. The Asserted Claims of the ’714 Patent Are Invalid Over Rusert in Combination With Karczewicz 721

“Rusert” (U.S. Patent App. Pub. No. 2011/0194609, RX-1976) in combination with “Karczewicz 721” (U.S. Patent App. Pub. No. 2011/0249721, RX-1977) (the “Rusert combination”) renders obvious the asserted claims of the ’714 Patent.⁴ Tr. (Hemami) 1003:19-21, 1031:16-18; *see also* RDX-4C.5, RDX-4C.58. The alleged invention of the ’714 Patent “generat[es] a motion vector prediction list for an image block.” JX-0004 (’714 Patent) at 4:19-20. But the evidence at the hearing indisputably proved that motion vector prediction lists, the candidates that go on these lists, and removing duplicates from such lists were all well-established before the ’714 Patent. Tr. (Moulin) 314:18-23, Tr. (Hemami) 1006:21-1007:1, JX-0004 (’714 Patent) at 3:60-4:3 (lists were known); Tr. (Moulin) 317:15-318:5, Tr. (Hemami) 1007:4-7, JX-0004 (’714 Patent) at Fig. 9 (candidates were known); Tr. (Moulin) 316:2-8, Tr. (Hemami) 1008:4-

⁴ It is undisputed that Rusert and Karczewicz 721 are prior art to the ’714 Patent. Tr. (Hemami) 1031:16-18; *see also* RDX-4C.58. Rusert was published August 11, 2011 and Karczewicz 721 was published October 13, 2011, which are both before November 4, 2011, the alleged priority date of the ’714 Patent. Both are prior art under at least pre-AIA 35 U.S.C. § 102(a).

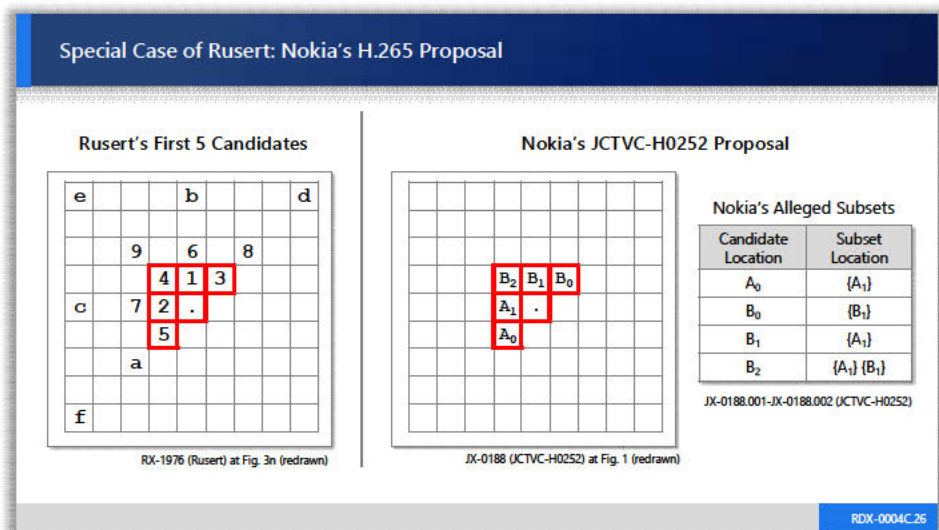
9, JX-0004 ('714 Patent) at 3:60-4:3 (removing duplicates was known). What the '714 Patent offered as purportedly novel was “perform[ing] a limited number of comparisons rather than exhaustive comparisons.” Tr. (Hemami) 1008:19-21; *see also* JX-0004 ('714 Patent) at 4:19-30 (“performing a limited number of motion information comparisons between candidate pairs to remove the redundant candidates rather than comparing every available candidate pair.”). But, as Dr. Hemami testified, that is just a special case of what was already taught in the art by Rusert, as seen below in RDX-4C.26.

As shown on the left (above), Rusert’s first five candidates are the exact same as the set of candidates found in Nokia’s H.265 proposal, which is shown on the right. Tr. (Hemami) 1012:24-1013:4. Some of Rusert’s subsets are also equivalent to Nokia’s alleged subsets. For instance, the subset of Rusert’s candidate 2 will consist of candidate 1. Tr. (Hemami) 1011:11-12. This corresponds with the subset of candidate B1 in H.265 consisting of candidate A1. *See* RDX-4C.26 (right); *see also* JX-0188.001-002.

Finally, neither Rusert nor Nokia’s H.265

proposal perform exhaustive comparisons. *See* Tr. (Hemami) 1013:7-8.

Rusert’s disclosures are “essentially the same” as those in the '714 Patent. *See* Tr. (Hemami) 1034:20-1035:7. Just as the '714 Patent “introduces a method for generating a motion vector prediction list for an image block,” Rusert likewise provides methods to “improve coding



efficiency for motion vector prediction schemes that use signaling of [a] motion vector predictor” from a motion vector prediction list. *Compare* JX-0004 (’714 Patent) *with* RX-1976 (Rusert) at ¶ 114; *see also* RDX-4C.61. Just like the ’714 Patent, Rusert processes motion vector prediction candidates to create a motion vector prediction list (PMV_CANDS), selects a candidate from the list that represents the “best vector for a particular block,” and transmits the index to the decoder where it will be used to decode the encoded block. *See* Tr. (Hemami) 1032:1-1033:22; *see also* RDX-4C.59; RX-1976 (Rusert) at Figs. 2a, 2b, 3n.

Karczewicz 721 teaches prediction units, “a type of coded block from the emerging HEVC standard,” which eventually became H.265. Tr. (Hemami) 1033:25-1034:19. Karczewicz 721 further teaches that prediction units are “essentially motion-compensated” because they are “inter-mode coded” and can “include data defining a motion vector.” *Id.*; *see also* RX-1977 (Karczewicz 721) at ¶¶ 35, 59, 64; RDX-4C.60. Like Rusert, the emerging HEVC standard performed motion vector prediction by sending an index that signaled the candidate that was chosen from a motion vector prediction list. *See* Tr. (Hemami) 1035:8-18.

As Dr. Hemami explained, the Rusert combination applies Rusert’s method of processing candidates and building a motion vector prediction list to the prediction units of the emerging HEVC standard. Tr. (Hemami) 1035:19-23; *see also* RDX-4C.62.

1. Motivation to Combine Rusert and Karczewicz 721

Dr. Hemami provided multiple reasons why a POSITA would be motivated to combine the teachings of Rusert and Karczewicz 721. *See* Tr. (Hemami) 1035:24-1038:1; RDX-4C.63. *First*, the combination is a straightforward and simple application of Rusert’s teachings into HEVC blocks. Tr. (Hemami) 1036:2-6. As Dr. Hemami explained, the emerging HEVC standard already had a module that created a motion vector prediction list. *Id.* The Rusert combination “is simply a

matter of creating that list in a different way, so very straightforward to put in.” *Id.*

Second, a POSITA would have understood that Rusert can achieve a better prediction than the consideration of the limited five candidates in the emerging HEVC standard. Dr. Hemami explained that, with a larger set of 15 candidates, Rusert “processes a greater diversity of candidates to try to give the encoder a list with more interesting choices.” *See* Tr. (Hemami) 1036:7-18; *see also* RDX-4C.21, RDX-4C.22. Thus, with Rusert’s scan order, the “encoder has a better chance of getting the best prediction possible.” *See* Tr. (Hemami) 1036:13-18. Because Rusert processes a greater diversity of candidates compared to the HEVC working drafts, a POSITA would have been motivated to implement Rusert’s methods to have a higher probability of a better prediction. *See* Tr. (Hemami) 1036:7-18; *see also* RDX-4C.63.

Third, the combination was within the knowledge and skill of a POSITA because it consists of a “straightforward insertion of one module into another.” *See* Tr. (Hemami) 1036:19-22.

Fourth, a POSITA would have been motivated to combine the two references because researchers commonly used the teachings of prior standards to improve standards that were in development. Rusert’s teachings are provided in the context of H.264 while Karczewicz 721 applies to the emerging HEVC standard. *See* RX-1976 (Rusert) at ¶ 116; *see also* RX-1977 (Karczewicz 721) at ¶ 59. Given “researchers commonly used [] the teaching of prior standards to improve standards that were under development,” a POSITA would look to Rusert’s teachings in the context of H.264 and apply them to the emerging HEVC standard. Tr. (Hemami) 1036:23-1037:3. In fact, Dr. Richardson’s own books acknowledge that “H.264 was always conceived as a toolkit of coding algorithms that could be extended to meet future needs.” CX-6084.343; CX-1964.148 (H.265 “was intended to be a successor to H.264” and “shares some of the technical approaches of the earlier [H.264] standard and extends its capabilities in a number of areas.”).

Finally, a POSITA would have been successful in making the Rusert combination to “end up with a working coder [that] would get output.” *See* Tr. (Hemami) 1037:21-1038:1. As Dr. Hemami explained, the combination consists simply of “sticking one module in for creating a list for another,” which is exactly the type of modification Dr. Hemami regularly implemented with graduate students in her research group because it would be “much easier” and would provide a “fairer comparison than coding up a personal coder from scratch to test it” as it “allows [her] to keep everything constant but what [she] really want[s] to tweak and give it a try.” *See* Tr. (Hemami) 1037:4-20.

2. Nokia’s Incompatibility Arguments Lack Merit and Are Irrelevant to the Asserted Claims

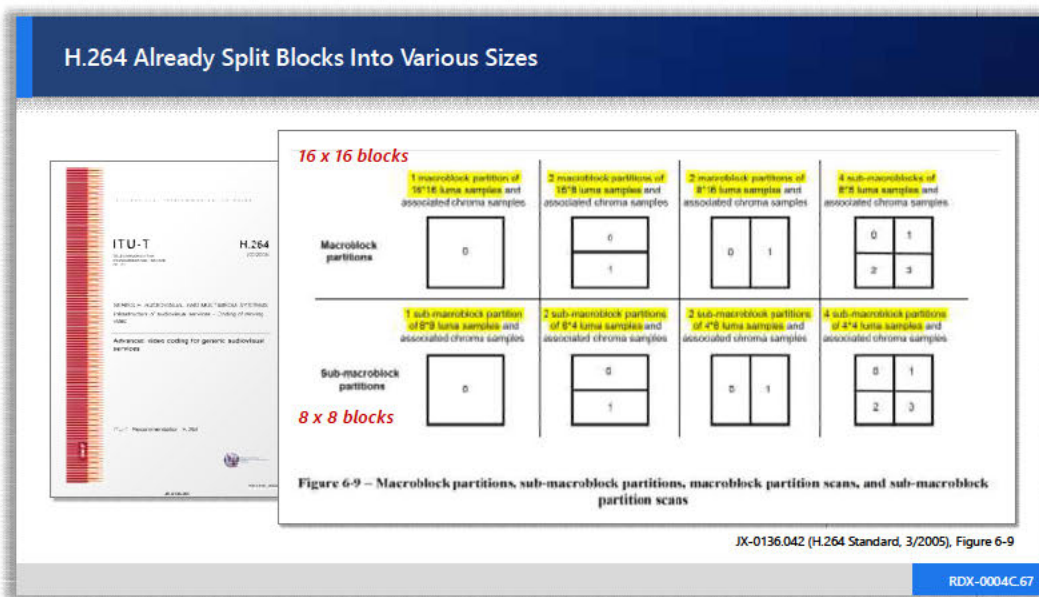
Nokia asserts that Rusert and Karczewicz ’721 are incompatible because “Rusert discloses using a distance metric to determine a scanning order assuming a constant block size” while “Karczewicz 721 discloses a technique for splitting prediction units into varying sizes.” Nokia Pre-Hearing Brief at 88-89. Nokia’s arguments are technically wrong and irrelevant to the requirements of the asserted claims.

As Dr. Hemami explained, Rusert does not exclusively use a “distance metric”; instead, Rusert deploys “tie-breaking rules” that “impose an order” such that its comparisons are in fact “based upon the location of the candidate being considered.” Tr. (Hemami) 1038:20-1039:3; RX-1976 (Rusert) at ¶¶ 15-16. Nor does Rusert assume a constant block size. In fact, Rusert explicitly references different partition sizes and describes how larger partition sizes may be assigned more weight than smaller partitions in the motion vector prediction list.⁵ *See* RX-1976 (Rusert) at ¶ 79;

⁵ Dr. Richardson incorrectly suggested that Rusert teaches that “you modify the processing order” for partitioned candidates. Tr. (Richardson) 1952:13-15. Rusert says no such thing. The

see also RDX-4C.65; Tr. (Hemami) 1039:10-13.

Dr. Hemami further proved how Rusert and Karczewicz 721 are compatible. Rusert explicitly provides that its teachings “are not intended to be the limit of the coding standards to which the disclosed method and apparatus may be applied.” RX-1976 (Rusert) at ¶ 116. Though grounded in H.264, Rusert discloses its teachings can also be applied to “any coding system which uses prediction motion vectors,” which would include the emerging HEVC standard. *Id.*; see also RDX-4C.66; Tr. (Hemami) 1039:14-1040:9. Dr. Hemami further testified that both H.264 and H.265 use variable partition sizes. See Tr. (Hemami) 1040:10-14. H.264 teaches numerous unique ways that individual blocks and sub-blocks can be partitioned, as seen below in RDX-4C.67. See Tr. (Hemami) 1040:15-1041:6; see also JX-0136.042 at Fig. 6-9.



reference merely teaches under an example implementation that “motion vectors with more weight are placed farther in the beginning of a PMV_CANDS list than those with lower weight.” RX-1976 (Rusert) at ¶ 79. Contrary to Dr. Richardson, this disclosure does not suggest an overhaul of Rusert’s processing order; instead, it confirms that Rusert accommodates variable-size blocks. Tr. (Hemami) 1039:6-1041:6.

Rusert’s teachings are applicable to the partitions in H.264 as well as the partitions of the prediction units in the emerging HEVC standard. *See id.* (Hemami) at 1041:4-6.

At the hearing, Dr. Richardson did not dispute that “prediction units” in H.265 can be the same size as the blocks disclosed in Rusert. Nor could he, as his own book proves this point. *See* CX-1964.342 (Figure 6.31, “Inter prediction block sizes in selected standards.”). Instead, Dr. Richardson argued incompatibility because “you can have many possible combinations of neighboring prediction block size.” Tr. (Richardson) 1950:8-13. But this speculation is irrelevant to the language of the asserted claims, which recite a “prediction unit of the block of pixels” without any shape or size requirement for the “prediction unit” that Nokia claimed. JX-0004 (’714 Patent) at cl. 15; *see also* Tr. 2017:4-12 (Dr. Richardson acknowledging same); RDX-19.8. Nor do the asserted claims recite any shape or size requirements for the spatial motion vector prediction candidates. By contrast, dependent claims recite “examin[ing] whether the block of pixels *is divided into a first prediction unit and a second prediction unit,*” and Dr. Richardson conceded that the asserted claims contained no such requirement. JX-0004 (’714 Patent) at cl. 18; RDX-19.9; Tr. (Richardson) 2017:19-2018:7. Simply put, Dr. Richardson’s postulations about hypothetical block size are irrelevant to the claims that Nokia chose to assert.

3. 15[A]/23[A] – “An apparatus comprising a processor and a memory including computer program code, the memory and the computer program code configured to, with the processor, cause the apparatus to:”

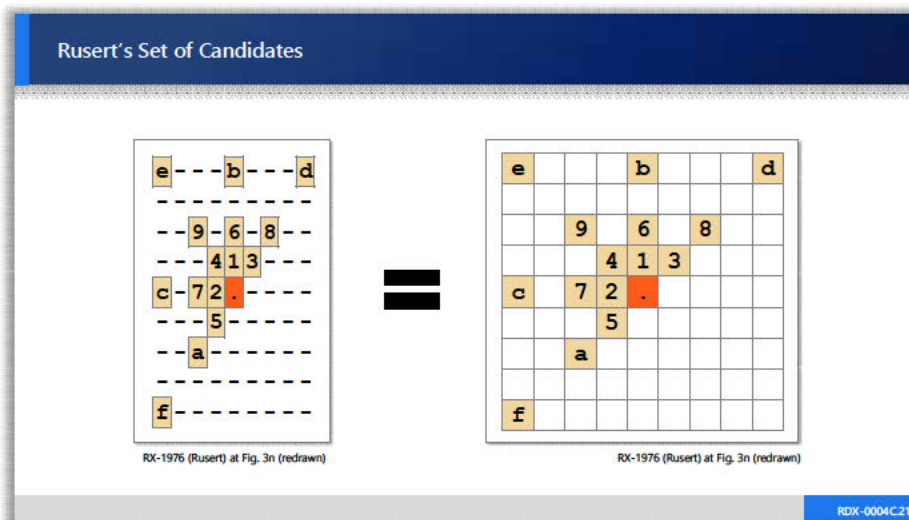
The Rusert combination renders obvious encoding claim 15 and decoding claim 23. Dr. Hemami analyzed these claims together because Rusert’s encoder and decoder “follow the same rules” and Rusert’s methods “are performed in the encoder during encoding, and also in the decoder during decoding.” RX-1976 (Rusert) at ¶¶ 35, 37, 39; *see also* Tr. (Hemami) 1041:7-1042:2; RDX-4C.68.

There is no dispute that the Rusert combination discloses limitations 15[A] and 23[A]. Rusert teaches a “video encoding apparatus comprising a processor” and a “computer-readable medium carrying instructions.” Tr. (Hemami) 1042:9-25; RDX-4C.70; RX-1976 (Rusert) at ¶¶ 24, 26. Dr. Hemami explained that the “computer-readable medium carrying instructions” would be understood to be “memory with computer program code” that “when executed by computer logic, causes the computer logic to carry out the methods.” Tr. (Hemami) 1042:16-25.

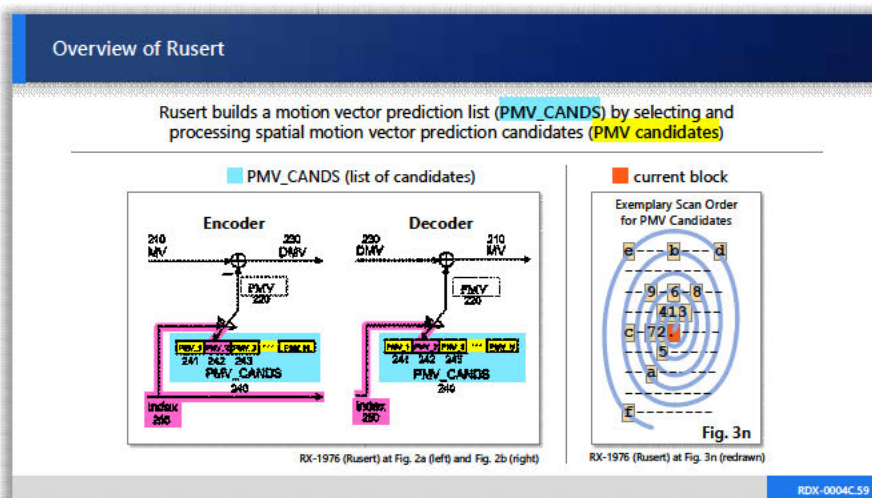
4. **15[B]/23[B] – “select a first spatial motion vector prediction candidate from a set of spatial motion vector prediction candidates for a block of pixels as a potential spatial motion vector prediction candidate to be included in a motion vector prediction list for a prediction unit of the block of pixels, where the motion vector prediction list comprises motion information of the spatial motion vector prediction candidates [and is utilized to identify motion vector prediction candidates of which one spatial motion vector prediction candidate from the motion vector prediction list is signaled as the motion information for the prediction unit]:”**

It is also undisputed that the Rusert combination discloses limitations 15[B] and 23[B]. At the hearing, Dr. Hemami addressed how the Rusert combination discloses each of the five requirements of limitations 15[B] and 23[B]. Tr. (Hemami) 1043:1-1046:12; RDX-4C.71-76.

The Rusert combination *selects a first spatial motion vector prediction candidate from a set of candidates for a block of pixels*. Figure 3n (redrawn below) illustrates Rusert’s set of candidates (beige) for the current block being coded (orange). Tr. (Hemami) 1009:22-1011:2, 1033:16-19, 1046:22-25, 1048:8-10 (discussing Rusert’s 15 candidates); RDX-4C.21.



Rusert processes its set of candidates in particular scan orders, one example of which, as illustrated in Figure 3n, outwardly spirals through candidates starting at 1 and ending with f. Tr. (Hemami) 1033:6-22, 1043:25-1044:14; RDX-4C.59 (right, below), RDX-4C.72; RX-1976 (Rusert) at ¶¶ 4-5, 11-12, 15, 24-25, 36-39, 43-44, 51-66.



The Rusert combination also discloses that the first spatial motion vector prediction candidate is selected for inclusion *on a motion vector prediction list*. Rusert's motion vector prediction list is PMV_CANDS (blue illustrations in Figures 2a and 2b, above), and is "a personal list for the current block." Tr. (Hemami) 1031:22-1033:5, 1044:2-14; RDX-4C.59; RX-1976

(Rusert) at Figs. 2a, 2b.

The Rusert combination discloses that the motion vector prediction list *is for a prediction unit of the block of pixels*. Rusert's list, PMV_CANDS, is “dynamically generated specifically for the current motion compensation block.” Tr. (Hemami) 1045:2-14; RX-1976 (Rusert) at ¶ 41. Rusert also teaches that a motion vector can be provided per “sub-block” or per “macroblock,” and provides 8x8 and 16x16 blocks as examples for each. *See* RX-1976 (Rusert) at ¶ 36. Karczewicz 721 expressly discloses prediction units, and as Dr. Hemami explained, a POSITA would understand that by applying Rusert's teachings in the context of the emerging HEVC standard, PMV_CANDS is generated specifically for the corresponding prediction unit. Tr. (Hemami) 1045:2-14; RDX-4C.74; RX-1977 (Karczewicz 721) at ¶¶ 35, 64.

The Rusert combination discloses that its motion vector prediction list *comprises motion information of the spatial motion vector prediction candidates*. Rusert discloses motion information because “each PMV candidate corresponds to a *motion vector used for coding of a previous block*.” RX-1976 (Rusert) at ¶ 11 (emphasis added). And as Karczewicz 721 explains, motion information in the emerging HEVC standard is similar but more granular, including “data defining a motion vector for the PU [prediction unit],” which can be horizontal and vertical components, resolution, and other information. RX-1977 (Karczewicz 721) at ¶ 35; Tr. (Hemami) 1045:15-1046:2; RDX-4C.75; *see also* Tr. (Richardson) 153:19-25 (testifying that motion vectors can be expected to have a horizontal and a vertical component).

Finally, the Rusert combination teaches that *one spatial motion vector prediction candidate from the motion vector prediction list is signaled as the motion information for the prediction unit*. As Dr. Hemami explained in reference to Figures 2a and 2b (above), the encoder selects one vector from PMV_CANDS that is “the best vector for a particular block.” Tr. (Hemami) 1032:1-1033:5;

RDX-4C.59. The index 250 (pink) represents that a particular candidate from PMV_CANDS and is sent to the decoder. *Id.*; *see also* Tr. (Hemami) 1046:3-12; RDX-4C.76.

At the hearing, Nokia and Dr. Richardson contended that Rusert did not invalidate under Respondents' proposed construction of "first spatial motion vector prediction candidate," arguing that Rusert's candidate 1 is never compared to any other candidate. *See* Tr. (Richardson) 1936:18-23. The assertion is wrong and ignores Rusert's initialization teachings, under which PMV_CANDS can be initialized "as an empty list (zero entries) or as a list with one or more pre-defined entries such as the zero vector (0,0)." RX-1976 (Rusert) at ¶¶ 39, 41; RDX-4C.72-73. As such, when "pre-defined entries" are included in PMV_CANDS, Rusert's candidate 1 would be subjected to the same subset-based comparisons that are claimed in the '714 Patent and that Rusert performs for all other candidates in its set.

5. 15[C]/23[C] – "determine a subset of spatial motion vector prediction candidates based on a location of the block associated with the first spatial motion vector prediction candidate;"

The Rusert combination discloses limitations 15[C] and 23[C]. Rusert determines a subset of PMV candidates, which includes those candidates obtained from blocks in previous locations in Rusert's scan order. Tr. (Hemami) 1046:13-1047:10; RDX-4C.77. Rusert at ¶¶ 24, 71 ("comparing the candidates already in the list with the new vector that could be added"); *id.* at ¶¶ 11-12, 24-25 (similar disclosures). Using Figure 3n, Dr. Hemami explained that when Rusert selects candidate "3" (blue), it determines a subset of PMV candidates obtained from blocks "1" and "2" (green).

The Rusert Combination Discloses 15[C] and 23[C]

15[C] “determine a subset of spatial motion vector prediction candidates based on a location of the block associated with the first spatial motion vector prediction candidate;”

[0024] ...

The processor is further arranged to select a set of PMV candidates as a subset of the set of previously coded motion vectors that were used for previous blocks having an allowed distance from the current block.

[0071] One measure for reducing the number of candidates is to avoid duplicate occurrences of the same motion vector in a given PMV_CANDS list. This can be done, when updating the list, by comparing the candidates already in the list with the new vector that could be added, and if a duplicate is found, either removing the duplicate vector or skipping the new vector.

RX-1976 (Rusert) at 11 24 and 71

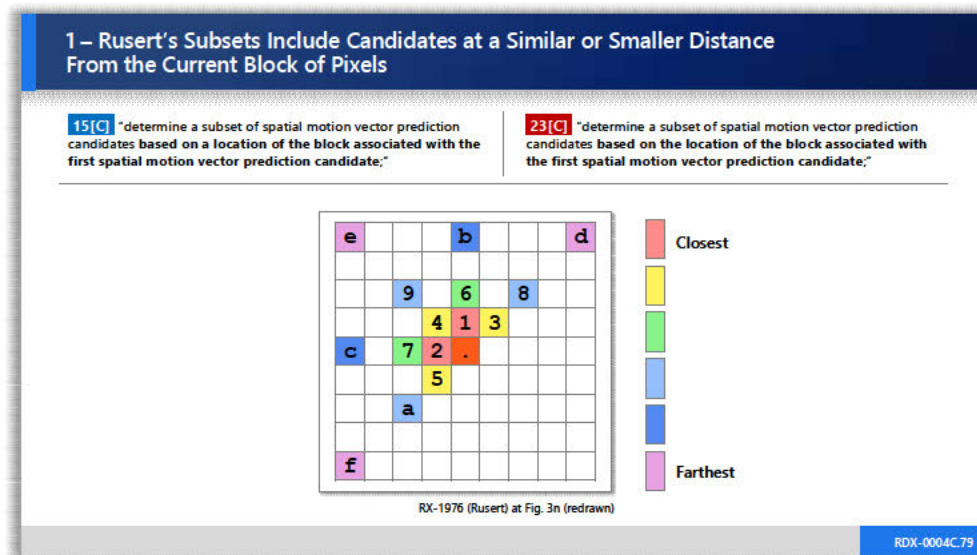
23[C] “determine a subset of spatial motion vector prediction candidates based on the location of the block associated with the first spatial motion vector prediction candidate;”

RX-1976 (Rusert) at Fig. 3n (redrawn)

RDX-0004C.77

Tr. (Hemami) 1046:13-1047:10; RDX-4C.77 (above). As illustrated, blocks “1” and “2” (green) are a subset of the larger set of candidates (beige) that can be added to PMV_CANDS. *Id.* Even Nokia’s infringement expert agreed there was “nothing wrong with a subset having more than one element.” Tr. (Moulin) 334:13-335:13 (agreeing H.265 could have a subset of three candidates).

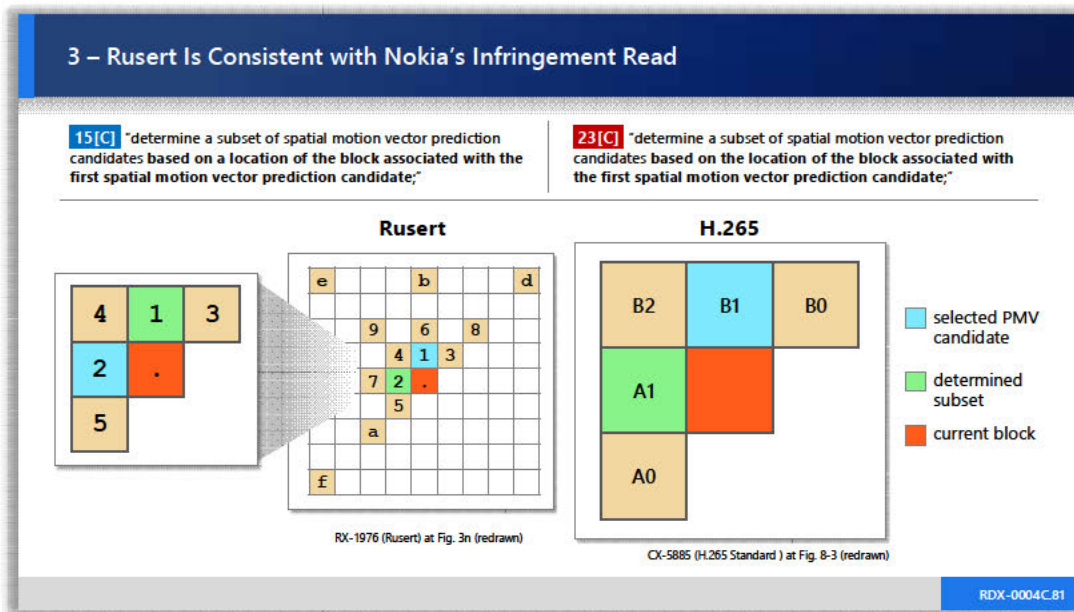
Dr. Hemami provided multiple reasons why Rusert’s determined subsets are “based on the location of the block associated with the first spatial motion vector prediction candidate.” Tr. (Hemami) 1047:11-1048:2; RDX-4C.78. *First*, Rusert’s subsets include candidates at a similar or smaller distance from the current block of pixels. Tr. (Hemami) 1048:3-23; RDX-4C.79. Dr. Hemami illustrated this point by coloring Rusert’s candidates in Fig. 3n so that “warmer colors represent blocks that are at a closer distance to the center block[], and the cooler colors represent candidate locations that are at a farther distance”:



Id. As one can see, “when Rusert forms a subset for any candidate, that subset will only have warmer colors in it. It will not have cooler colors.” Tr. (Hemami) 1048:3-23; *see also* RX-1976 (Rusert) at ¶¶ 44, 51-59, 64-66, Figs. 3a-3b, 3d-3f, 3g, 3n (illustrating and explaining distances).

Second, Rusert’s subsets are based on the location of the selected candidate. Tr. (Hemami) 1048:24-1049:16; RDX-4C.80. Using candidate 4 as an example, Dr. Hemami explained that Rusert “is going to select a subset that will include, at most, candidates that are the same distance from the current block as block 4 or a shorter distance” (*i.e.*, at most candidates 1, 2, and 3). *Id.* The PTAB reached precisely this same conclusion in its November 7, 2022 Institution Decisions regarding the ’714 Patent—which Nokia and Dr. Richardson notably avoided at the hearing. *See, e.g., Amazon.com, Inc. v. Nokia Techs. Oy*, IPR2024-00604, Paper 11 at 35 (PTAB Nov. 7, 2024) (“[T]he determined subset does depend on the location of the first selected spatial motion vector prediction candidate. For example, if the first selected candidate is at the location of block 5, then the subset would be the four members 1, 2, 3, and 4”); RDX-19.4-7; Tr. (Richardson) 2013:5-9 (“I don’t recall mentioning PTAB rulings of any sort”).

Third, Rusert is consistent with Nokia’s infringement read because both Rusert and H.265 teach the same comparison “between the motion vectors in the top block [B1 in H.265 and Candidate 1 in Rusert] and the left block [A1 in H.265 and Candidate 2 in Rusert].” Tr. (Hemami) 1049:17-1051:4; RDX-4C.81:



The right portion of RDX-4C.81 (*i.e.*, H.265) demonstrates how “the determined subset for [H.265’s] B1 candidate is A1.” Tr. (Hemami) 1049:19-1050:7. Even Nokia’s infringement expert, Dr. Moulin, agreed “[i]t’s very clear” in this instance that “the subset, which is the motion vector associated with A1, clearly depends on ... the location of B1.” Tr. (Moulin) 231:15-17. The left portion of RDX-4C.81 (*i.e.*, Rusert) illustrates how “when 2 is the selected candidate in Rusert, the comparison that will be performed is between the motion vectors in the top block and the left block”—essentially the same teachings as H.265. Tr. (Hemami) 1050:20-1051:4; *see also* Tr. (Richardson) 1939:14-16 (“If 2 is available, and if it’s not the same as 1, it’s compared with 1, and then added to PMV_CANDS.”). Importantly, Rusert’s processing of Candidate 2 alone invalidates

the asserted claims of the '714 Patent because Nokia contends that the '714 Patent is practiced when any one of the A0, B1, B1, or B2 candidates in H.265 is processed.⁶

Nokia and Dr. Richardson contend that Rusert's subset "cannot be based on the location associated with the first spatial motion vector prediction candidate" because it is "determined prior to the selection of" the selected candidate. Nokia Pre-Hearing Brief at 89; *see also* Tr. (Richardson) 1938:23-24. That argument is both incorrect and irrelevant.

The argument is incorrect because Rusert determines its subset "*after*" a candidate has been selected. Tr. (Hemami) 1052:10-14 (emphasis added). As Dr. Hemami explained, "Rusert is comparing candidates on the interim list" of PMV_CANDS, which is "dynamic based upon the actual data for a particular block that's being coded." Tr. (Hemami) 1051:5-1052:9; RDX-4C.82. As such, "there is no guarantee that [the] interim list is always going to be" each of the previous candidates in Rusert's scan order. *Id.* In fact, Dr. Hemami explained that "Rusert could just as easily have had an additional array [*i.e.*, an additional determined subset], labeled it vectors for comparison, and copied those in. ***But a person of ordinary skill understands that what Rusert wrote is a more efficient way to express the same thing.***" Tr. (Hemami) 1165:20-1166:9 (emphasis added). In other words, a POSITA would have clearly understood that Rusert determines a subset *after a candidate had been selected*.

The argument is also irrelevant because the '714 Patent and Nokia's infringement read allow subsets to be predetermined. Tr. (Hemami) 1029:1-1030:1 (identifying this inconsistency).

⁶ *See* Tr. (Moulin) 318:22-25, 229:5-17 ("Q: ... [I]s B0 the only candidate with a determined subset? A: No. I'm only showing here a pair, right, B0/B1, and there are similar pairs. ... I'm just showing one of those from the standard."); *see also* CDX-3C.41 (showing other candidate pairs); Nokia Pre-Hearing Brief at 68 ("Each spatial candidate other than A1 has a determined subset based on the location associated with the spatial candidate's block: B1 for B0, A1 for A0, and A1 and B1 for B2."), 73 (same).

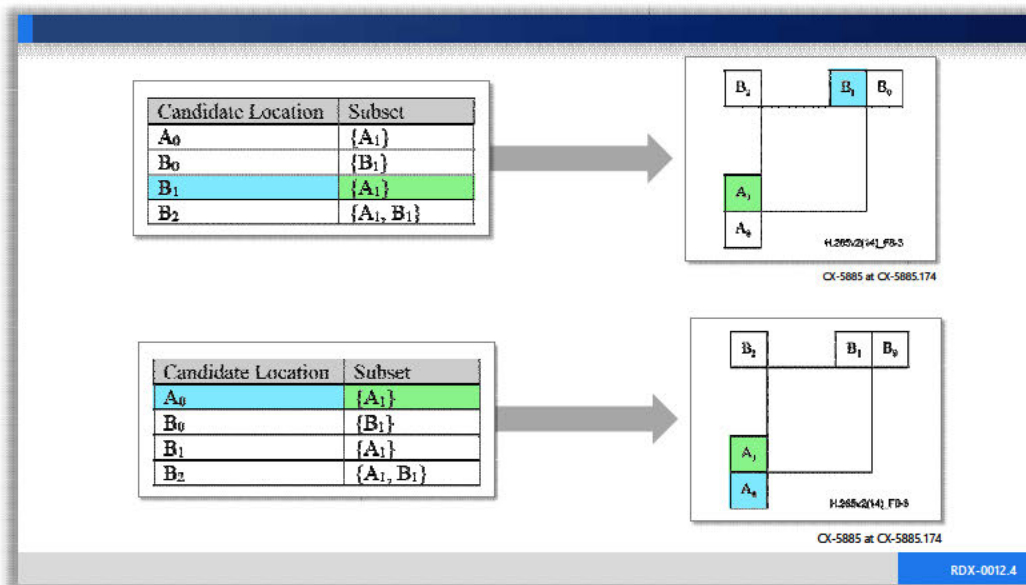
Nokia's infringement expert, Dr. Moulin, conceded "there is no requirement in the claims that anything be dynamical." Tr. (Moulin) 230:16-17. He further agreed that the H.265 pairings between candidate location and subset location that he is relying on for infringement were determined over a decade ago when that standard was first published in 2013. Tr. (Moulin) 327:16-328:15, 329:3-330:25, 331:8-25. These admissions are also consistent with ALJ Elliot's 1380 Initial Determination, in which the ALJ not only found that "*H.265 predefines the subset*," but further concluded that "'determine' in a computer apparatus claim *ordinarily has broad meaning*," and that the '714 Patent "seems to use 'determine' even in situations *where things are predetermined or instructed*."⁷ RX-1945.0095-96 (emphasis added). Nokia's counsel adopted similar language during its opening statement, referring to the invention of the '714 patent as "creat[ing] a predefined set of comparisons." Tr. 37:4-7. Thus, even if Rusert's subsets were somehow predetermined—they are not—that would be permissible under the '714 Patent and Nokia's reading of the claims. Notably, Dr. Richardson made no effort to reconcile his validity opinions with ALJ Elliot's findings from the 1380 Investigation. Tr. (Richardson) 2014:5-2016:20.

At the hearing, in an attempt to manufacture differences where there are none, Dr. Moulin abandoned his prior admission that H.265's subsets were predetermined and testified instead that only the "pairings are fixed" or "hard-coded" in H.265, but that the "motion vectors associated with [the subset] locations" can "change dynamically." Tr. (Moulin) 364:23-365:1. But as Dr. Hemami explained, this new gloss on H.265 did not save the '714 Patent from invalidation because

⁷ See also JX-0004 ('714 Patent) at 21:41-43 (teaching a codec can "determine" a value even when that value is provided, *e.g.*, pixel predictor unit "determines" which prediction mode to use when instructed by entropy decoder), 22:17-22 (suggesting candidate order can be "predetermined" as "A1, B1, B0, A0, and B2"), 22:46-48 (teaching the "decoder determines ... which spatial motion prediction candidate is in question" even though it suggests elsewhere the candidate order may be predetermined), Figs. 8a, 8b (same).

it was simply explaining “how video coding works”—*i.e.*, an encoder or decoder must pull the motion vectors from their locations to process and compare them. Tr. (Hemami) 1052:15-1054:12; RDX-4C.83. In fact, Dr. Moulin’s new explanation was “exactly why Rusert’s subsets are not predetermined” because Rusert’s “subset is going to change depending on what the actual values are in a particular block.” *Id.*

Finally, Nokia’s validity expert, Dr. Richardson, argued that Rusert did not teach limitations 15[C]/23[C] because different candidates in Rusert can have the same subset. Tr. (Richardson) 1941:24-1944:9; CDX11.80-81. But that argument is completely undermined by Dr. Moulin, who testified that for purposes of infringement, it was okay for different candidate locations in H.265 (*i.e.*, B1 and A0, shown below in blue) to have the same subset (*i.e.*, A1, shown below in green). Tr. (Moulin) 335:14-338:17; RDX-12.4 (below):



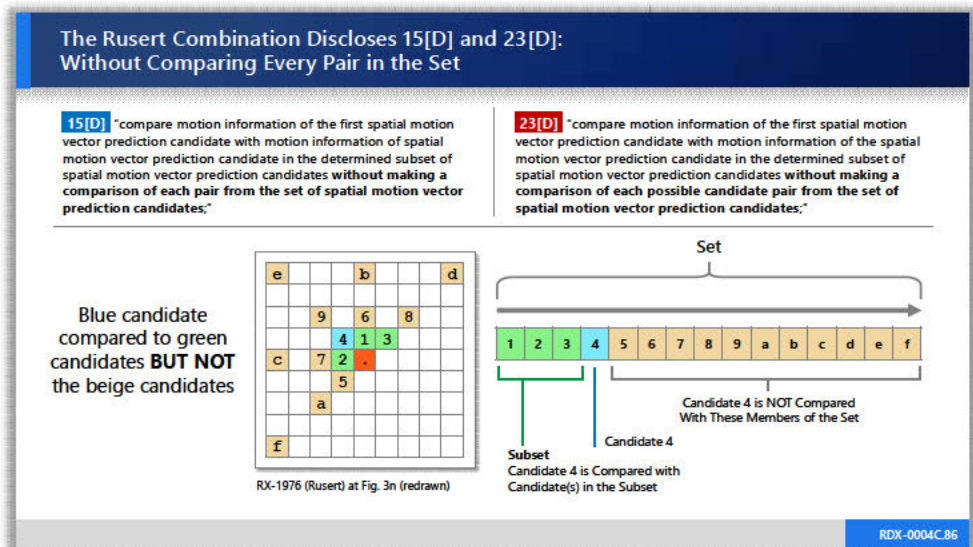
Dr. Richardson also argued that Rusert’s subsets may be different for the same candidate location, depending upon the availability of particular blocks in the set. *See* Tr. (Richardson) 1944:10-1945:4; *see also* CDX11.82. But this observation only further proves Dr. Hemami’s point that Rusert’s subsets are not predetermined and instead are determined dynamically after a

candidate has been selected. Tr. (Hemami) 1052:15-1054:12. The claims do not recite determining a “fixed subset” or require that the subset be based “solely” or “exclusively” on the selected candidate’s location. Tr. (Moulin) 323:7-324:9; Tr. (Richardson) 2018:17-2019:6. Even Dr. Richardson agreed that “based on the location” permitted consideration of other factors. Tr. (Richardson) 2019:7-21. For these reasons, the Rusert combination discloses this limitation.

6. 15[D]/23[D] – “compare motion information of the first spatial motion vector prediction candidate with motion information of spatial motion vector prediction candidate in the determined subset of spatial motion vector prediction candidates without making a comparison of each pair from the set of spatial motion vector prediction candidates;”

The Rusert combination discloses limitations 15[D] and 23[D]. Rusert teaches at least two comparisons between motion vector prediction candidates: (1) are the candidates duplicates and (2) are the candidates almost equal. *See* Tr. (Hemami) 1054:14-1055:11; *see also* RDX-4C.84, RDX-4C.85; RX-1976 (Rusert) at ¶¶ 21, 71, 72. In Rusert, candidates are “unnecessary” if they are duplicates or if they “have a similarity measure smaller than a pre-defined threshold,” such that the candidates would be almost equal. *Id.*

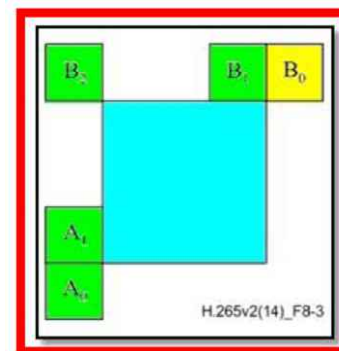
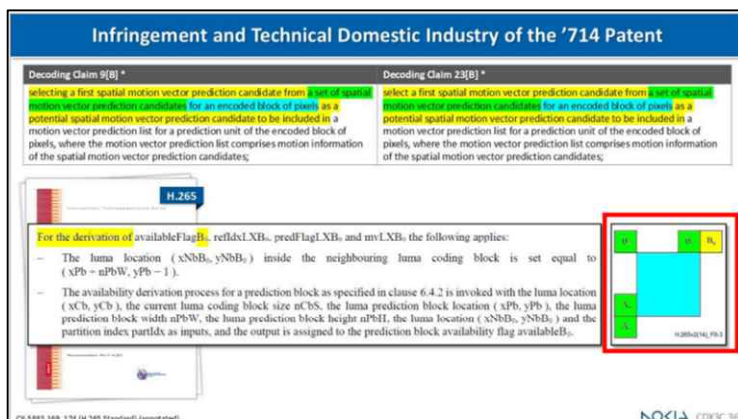
Rusert also compares the first spatial motion vector prediction candidate to the candidates in the determined subset. Using candidate 4 as an example in RDX-4C.86 (below), Dr. Hemami showed how the subset for candidate 4 will be at most candidates 1, 2, and 3. *See* Tr. (Hemami) 1055:12-1056:4; *see also* RDX-4C.86.



As illustrated, candidate 4, when selected, will be compared at most to candidates 1, 2, and 3—and not compared to any of the outer members of Rusert’s set (*i.e.*, candidates 5 through f). *Id.*

To avoid invalidation, Dr. Richardson asserts that candidates beyond the selected candidate in Rusert (for example, candidates 5 through f in the prior example) are merely “locations” (not candidates) and concludes that Rusert’s “entire set would be all of the candidates that had been evaluated and placed in PMV_CANDS before the current neighboring location that Rusert is considering.” *See* Tr. (Richardson) 1947:18-1948:2; *see also* CDX11.84. This assertion is at war with Nokia’s infringement expert.

Dr. Moulin testified that the alleged set of candidates in H.265 is A0, A1, B0, B1, and B2—all five potential candidates that can be included in H.265’s alleged motion vector prediction list. Tr. (Moulin) 333:16-22. Notably, in testifying about infringement, Dr. Moulin never suggested that the claimed “set” somehow expanded or contracted depending upon the availability of particular candidates. Instead, Dr. Moulin plainly testified “**the set of candidates was five elements**” regardless of availability—B0, B1, B2, A1, A0—and colored all possible candidates as the “set” in his demonstratives (Tr. (Moulin) 225:16-20) (CDX-3C.36, annotated and enlarged):



As Dr. Moulin explained, “the selected candidate”—here, B0—“is from a set, a larger set, which is shown in green, B1, B2, A1, A0, plus B0.” Tr. (Moulin) 225:16-20. Nokia cannot contend that

“set” takes on a different meaning when arguing against the prior art. “A patent may not, like a nose of wax, be twisted one way to avoid [invalidation] and another to find infringement.” *CommScope Techs. LLC v. Dali Wireless Inc.*, 10 F.4th 1289, 1299 (Fed. Cir. 2021) (cleaned up); *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1351 (Fed. Cir. 2001) (“Because the claims of a patent measure the invention at issue, the claims must be interpreted and given the same meaning for purposes of both validity and infringement analyses.”).

In fact, in the 1380 investigation, Nokia advanced the same argument against the Nakamura prior art reference, arguing that only two of the same five candidates in H.265 qualified as Nakamura’s set. RX-1945.0109. ALJ Elliot rejected this argument as “completely at odds with Nokia’s infringement theory” and also because the Respondents “control[] [their] own invalidity theory.” *Id.* The same applies here. Rusert’s set—like Nokia’s alleged H.265 set—consists of all candidates that can be included on its motion vector prediction list. The Rusert combination, with its set of 15 candidates, discloses this limitation.

7. 15[E]/23[E] – “determine to include or exclude the first spatial motion vector prediction candidate in the motion vector prediction list based on comparison of the motion information of the first spatial motion vector candidate with motion information of the spatial motion vector prediction candidate; and;”

There is no dispute that the Rusert combination discloses limitations 15[E] and 23[E]. Rusert determines to include/exclude the first spatial motion vector prediction candidate by comparing motion information between candidates. Rusert teaches that “[a]ny unnecessary PMV candidates may be removed from the set of PMV candidates.” RX-1976 (Rusert) at ¶ 21. As Dr. Hemami explained, “unnecessary candidates” are defined as those that are duplicates or close to duplicates. *See* Tr. (Hemami) 1056:5-13; *see also* RDX-4C.87; RX-1976 (Rusert) at ¶¶ 71-72.

8. 15[F] – “cause information identifying the one spatial motion vector prediction candidate from the motion vector prediction list to be transmitted to a decoder or to be stored.”/ 23[F] – “select a spatial motion vector prediction candidate from the motion vector prediction list for use in decoding the encoded block of pixels, wherein the spatial motion vector prediction candidate is selected from the motion vector prediction list using information that was received identifying a respective spatial motion vector prediction candidate from the motion vector prediction list constructed by an encoder.”

There is no dispute that the Rusert combination discloses limitations 15[F] and 23[F]. Using Figures 2a and 2b, Dr. Hemami explained how index 250 (pink) is generated at the encoder and sent to the decoder. *See* Tr. (Hemami) 1032:1-1033:5, 1046:3-12, 1056:14-22; *see also* RX-1976 (Rusert) at ¶¶ 36-37, Fig. 2a; RDX-4C.59, RDX-4C.76, RDX-4C.88. Rusert’s decoder then constructs the same motion vector list built by the encoder and uses the index it receives from the encoder to select a particular candidate for decoding the block. *Id.*; RX-1976 (Rusert) at Fig. 2b. *See* Tr. (Hemami) 1032:13-1033:5, 1046:6-12, 1056:14-22; *see also* RX-1976 (Rusert) at ¶¶ 34-37, 39, 88-102.

9. Method claims 1 and 9 are invalid for the same reasons as apparatus claims 15 and 23

Encoding claim 1, a method claim, is also obvious in view of the Rusert combination for the same reasons as encoding claim 15, an apparatus claim. Dr. Hemami analyzed both asserted encoding claims and concluded that any differences in claim language did not affect her opinion that the Rusert combination invalidates both. Tr. (Hemami) 1056:23-1057:16; RDX-4C.89.

Dr. Hemami performed the same analysis for decoding claim 9, a method claim, and decoding claim 23, an apparatus claim, and determined that any differences in claim language did not affect her opinion that the Rusert combination invalidates the asserted decoding claims. Tr. (Hemami) 1057:17-1058:5; RDX-4C.90.

C. There Are No Secondary Considerations of Non-Obviousness

Nokia presented no evidence of secondary consideration of non-obviousness for the '714 Patent and Dr. Hemami confirmed there were none. *See* Tr. (Hemami) 1058:6-1059:9. There was no evidence that the '714 Patent received any praise (Tr. (Hemami) 1058:6-19), and the Rusert combination addressed any alleged long-felt need. *Id.* at 1058:20-24. Nor was there any nexus or other connection between sales of the Accused Products and the domestic industry products and the '714 Patent. Tr. (Hemami) 1058:25-1059:3. And allegations of adoption into the H.265 standard are irrelevant to non-obviousness because, as Dr. Hemami explained, “[t]here is no guarantee that because something is in a standard it was novel.” Tr. (Hemami) 1059:4-9.

IV. U.S. PATENT NO. 11,805,267

The '267 patent was asserted by Nokia in Inv. No. 337-TA-1380, where ALJ Elliot found independent claims 7 and 25 and dependent claim 26 invalid in view of U.S. Patent Application Publication No. 2005/0281334 (“Walker”, JX-0683). *See* RX-1945.0145 (1380 ID). With respect to dependent claim 8, ALJ Elliot found “the difference between the claim and the prior art is negligible” and “a motivation [was] present,” but found that he was presented with insufficient evidence regarding the level of ordinary skill in the art and a POSITA’s expectation of success to invalidate claim 8. *See* RX-1945.0138, 146 (1380 ID).

In this Investigation, Nokia asserts dependent claims 2, 8, 20, and 26 of the '267 patent. At the evidentiary hearing, Dr. Schonfeld demonstrated that claim 26 is invalid for the same reasons it was held invalid in the 1380 investigation. He also supplied the testimony, analysis, and evidence that ALJ Elliot found lacking in that investigation, conclusively establishing the invalidity of claim 8 over Walker, or Walker in combination with U.S. Patent No. 7,620,109 (Srinivasan, RX-2024). Dr. Schonfeld further showed that claims 2 and 20 are method claims that correspond to apparatus

claims 8 and 26 and therefore are invalid for the same reasons. Finally, addressing the claim construction dispute over “precision”—an issue not presented in the 1380 investigation—Dr. Schonfeld established that Walker, alone or combined with Srinivasan, renders the ’267 claims obvious under any proposed construction. As he explained at the hearing, his invalidity analysis is deferential to, and fully consistent with, ALJ Elliot’s findings in the 1380 investigation. Tr. (Schonfeld) at 1401:16–1402:10.

The analysis that follows provides the ALJ with multiple paths for invalidating the ’267 patent based on Walker alone or in combination with Srivinasan. **First**, Respondents present the same analysis that invalidated multiple claims of the ’267 patent in the 1380 Investigation. In doing so, Respondents demonstrate how the additional testimony and analysis that Dr. Schonfeld presented at the evidentiary hearing foreclose any doubt that it would have been obvious for a POSITA to apply interpolation to Walker’s encoder, thus rendering all asserted claims obvious.

Second, Respondents demonstrate how Walker again renders the asserted claims obvious under the litigation-driven construction of “precision” that Nokia proposes for the first time in this Investigation. To avoid invalidation under Walker, Nokia newly proposes that the ALJ construe “precision” as “a measure of the number of distinct alternatives from which a value can be determined.” Nokia Pre-Hearing Brief at 92-93. Putting aside the fact that Nokia offered no intrinsic support for its proposed construction of “precision” during *Markman* briefing or at the evidentiary hearing, Dr. Schonfeld provided multiple reasons why Walker alone would invalidate the ’267 patent if the ALJ were to adopt Nokia’s construction. His analysis was two-fold: (1) Walker discloses variable weights that can take on 256 possibilities, thus increasing the number of possible values for its predictions, and (2) using any of the well-known interpolation methods that Walker expressly encourages—including the example that Nokia’s counsel mentioned during its

opening statement—would lead to Walker’s “predictions” having a greater number of possible values for the same reasons why Nokia believes these claims are infringed by the H.265 standard and the AV1 specification.

Third, to further remove any doubt that the ’267 patent is obvious under Nokia’s new construction of “precision,” Dr. Schonfeld combined Walker with the multi-stage interpolation teachings of Srinivasan, which are highly similar to Walker’s interpolation disclosures and “allow[] for a lot of flexibility in terms of how high the precision should be at the very end of the interpolation filter.” Tr. (Schonfeld) at 1379:2-1380:14. Because Nokia and its expert offered little more than cramped and grammatically incorrect interpretations of Srinivasan’s disclosures, the combination of Walker and Srinivasan provides a third and independent basis for invalidation.

A. Background

The ’267 patent is directed to bi-directional prediction in video coding. JX-0007.003 (’267 patent). As the ’267 patent itself concedes, bi-directional prediction was well-known long before the patent’s January 7, 2011 priority date. JX-0007.017 (’267 patent) at 2:43-65. The patent’s specification confirms the invention’s narrow focus: it aims to keep “the motion compensated prediction signal of each one of the predictions at highest precision possible” and then perform “the rounding to the bit-depth range of the video signal after both prediction signals are added.” JX-0007.019 (’267 Patent) at 6:53-57. This allegedly avoids the need to signal rounding direction in the bitstream. *Id.* at 6:46-52. Even the ’267 patent’s inventors described their invention as a “*minor fix* on how the bi-directional prediction is generated” in their H.265 submission. JX-0187.003 (emphasis added); *see also* RDX-0005C.113; JX-0181C.046 at 237:3-9 (named inventor Jani Lainema characterizing the invention as a “minor fix” during deposition).

Nokia asserts dependent claims 2, 8, 20, and 26 of the '267 patent. The four independent claims from which the asserted claims depend—encoding method claim 1, encoding apparatus claim 7, decoding method claim 19, and decoding apparatus claim 25—share a common structure and include the following limitations:

- (a) determining, for a current block, a first reference block based on a first motion vector and a second reference block based on a second motion vector, wherein the pixels of the current block, the first reference block, and the second reference block have values with a first precision;
- (b) using said first reference block to obtain a first prediction, said first prediction having a second precision, which is higher than said first precision;
- (c) using said second reference block to obtain a second prediction, said second prediction having the second precision;
- (d) obtaining a combined prediction based at least partly upon said first prediction and said second prediction;
- (e) decreasing a precision of said combined prediction by shifting bits of the combined prediction to the right; and
- (f) encoding residual data (claims 1, 7) or reconstructing the block of pixels (claims 19, 25).

JX-0007.027-028 ('267 Patent), cls. 1, 7, 19, 25. Asserted dependent claims 2, 8, 20, and 26 add the limitation that when a motion vector points to a subpixel, the prediction is obtained by interpolation using pixel values of the reference block. *Id.* at cls. 2, 8, 20, 26.

B. Claim Construction

The interpretation of “precision” is a new litigation-drive issue that was not raised by Nokia in the 1380 investigation. The proposed constructions are as follows:

Nokia	Respondents	Staff
Plain and ordinary meaning, which means a measure of the number of distinct alternatives from which a value can be determined: for example, in binary representation, a number of bits required to represent each possible distinct alternative.	Plain and ordinary meaning, which is a number of bits needed to represent possible values.	The number of bits (in binary representation) required to represent each possible distinct alternative.

As discussed below, Dr. Schonfeld testified that, in the 1380 Investigation, the term “precision” was applied consistently with the proposed construction that Respondents offer in this case. *See* Tr. (Schonfeld) at 1362:17-1363:19; Sections IV.C.2.d, IV.D.2.l. However, Dr. Schonfeld testified that the ’267 patent’s claims are invalid regardless of which construction of “precision” is applied. *See* Sections IV.C.4, IV.D.3.

C. Walker Alone Renders the Asserted Claims Obvious

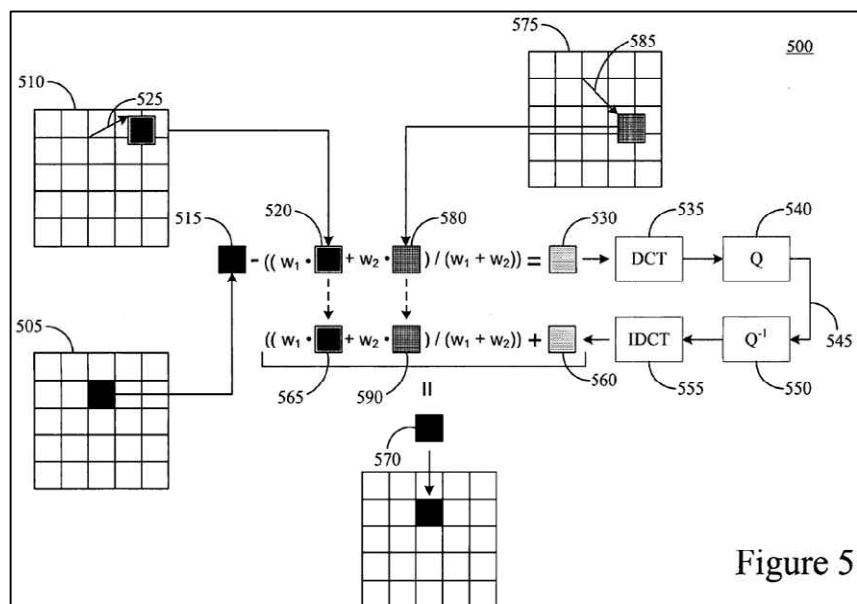
Walker alone renders obvious all asserted claims of the ’267 patent. As explained below, the Walker invalidity analysis presented in the 1380 case invalidates all asserted claims other than claims 2 and 8. Further, Dr. Schonfeld presented additional evidence regarding Walker in this case to foreclose any doubts regarding the validity of claims 2 and 8 of the ’267 patent. Lastly, Walker invalidates the ’267 patent’s claims even under Nokia’s new proposed construction for “precision.”

1. Overview of Walker

Walker was published December 22, 2005, and is prior art to the ’267 patent. JX-0683.001 (Walker). Walker is directed to “weighted bidirectional encoding schemes” for encoders and decoders. JX-0683.012 (Walker) at [0003], [0008]; RDX-0005C.124. Indeed, Walker’s Figure 1 shows encoding devices on the left and a universal decoder on the right, which decodes bitstreams created by any of the various encoding devices. JX-0683.002 (Walker) at Fig. 1; RDX-0005C.125; Tr. (Schonfeld) at 1355.

Walker’s Figure 5 illustrates the bi-directional prediction process: the encoder identifies a “best matching macroblock 520” in previous reference picture 510 based on motion vector 525 and a “best matching macroblock 580” in subsequent reference picture 575 based on a second motion vector 585. JX-0683.006 (Walker) at Fig. 5, -.015 at ¶¶ 34-35; RDX-0005C.126-127. Figure 5 also shows that “best matching macroblock 520” and “best matching macroblock 580”

are multiplied by weights “w₁” and “w₂”, respectively, and then combined (indicated by the “+” sign). *Id.* The same structure appears on the decoder side. *Id.*



JX-0683.0006 (Walker) at Fig. 5.

2. Walker Invalidity Analysis from the 1380 Investigation

As Dr. Schonfeld explained during the evidentiary hearing, the Walker invalidity analysis presented in the 1380 investigation renders obvious independent claims 1, 7, 19, and 25, as well as dependent claims 20 and 26. Tr. (Schonfeld) at 1353:20-1354:17; *see also* RDX-0005C.122; RX-1945.0145-146. ALJ Elliot did not find apparatus claim 8 invalid in the 1380 investigation, so additional analysis is provided in later sections to further address apparatus claim 8 and corresponding method claim 2. RX-1945.0145-146 (1380 ID); *see also* Sections IV.C.3, IV.D.4.

a) Encoding Claim Element 7[pre]

It is undisputed that Walker discloses encoder devices, which are apparatuses for encoding a block of pixels. JX-0683.012-013 (Walker) at ¶¶ 3, 25, Fig. 1; Tr. (Schonfeld) at 1358:23-1359:10; RDX-0005C.132. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

b) Encoding Claim Element 7[a]

It is also undisputed that Walker implements its encoding and decoding methods using a processor and memory that includes computer program code (*e.g.*, a software module). JX-0683.022 (Walker) at ¶¶ 122-123; Tr. (Schonfeld) at 1359:11-22; RDX-0005C.133. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

c) Encoding Claim Element 7[b]

Walker determines a first reference block (*i.e.*, a block of original reference pixels in “previous reference picture 510”) based on a first motion vector (*i.e.*, “motion vector 525”) and a second reference block (*i.e.*, a block of original reference pixels in “subsequent reference picture 575”) based on a second motion vector (*i.e.*, “motion vector 585”). JX-0683.015 (Walker) at ¶ 34, -.006 at Fig. 5; Tr. (Schonfeld) at 1360:3-15; RDX-0005C.134.

Dr. Schonfeld explained that Walker’s first precision is 8 bits. Specifically, the first and second reference blocks are comprised of “8-bit luminance Y and 8-bit chrominance values.” Tr. (Schonfeld) at 1360:19-1361:20; *see also* JX-0683.014 (Walker) at ¶ 30, -.017-.019 at ¶¶ 60, 68, Table 2; RDX-0005C.135. Dr. Schonfeld further explained that Walker’s motion vectors may “point to either integer pixels or subpixels, depending on whether you apply the interpolation filter or not.” Tr. (Schonfeld) at 1360:16-18. When Walker’s motion vectors point to integer pixels, the variables “pred0” and “pred1” are comprised of 8-bit pixel values from the underlying reference blocks. *Id.* at 1361:10-20. These disclosures satisfy each proposed construction of “precision” because Walker discloses that 8 bits (*i.e.*, 256 distinct alternatives) are needed to represent the possible pixel values in the reference blocks. *See, e.g.*, JX-0683.014 (Walker) at ¶ 30 (stating that macroblock pixels “can be defined by 8-bit luminance value (Y)” and that “each macroblock would

consist of 256 Y components”). ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

d) Encoding Claim Elements 7[c]-7[d]

Walker’s encoder obtains a first prediction (*i.e.*, “(pred0)w0”) and a second prediction (*i.e.*, “(pred1)w1”). JX-0683.018 (Walker) at ¶ 68, -.019 at Table 2; Tr. (Schonfeld) at 1361:21-1362:11; RDX-0005C.136. As Dr. Schonfeld explained, “pred0” and “pred1” are either (1) 8-bit pixel values copied from the reference blocks or (2) interpolated half-pixel values based on the pixels of the reference blocks⁸, and as a result, Walker’s predictions “(pred0)w0” and “(pred1)w1” are obtained using the first and second reference blocks. Tr. (Schonfeld) at 1361:10-16. In particular, Walker explains that “(pred0)w0” and “(pred1)w1” are the product of “pred0” and “pred1” multiplied by weights (*i.e.*, “w0” and “w1”). Tr. (Schonfeld) at 1361:10-20; JX-0683.018 (Walker) at ¶ 68. In fact, “(pred0)w0” and “(pred1)w1” are the claimed “predictions” because the ’267 patent teaches that “predictions” can be obtained by shifting values of a reference block to the left, which is equivalent to scaling through multiplication. Tr. (Schonfeld) at 1364:9-15; JX-0007.027 (’267 patent) at cl. 10; JX-0683.017 (Walker) at ¶ 46; RDX-0005C.140. In the 1380 investigation, ALJ Elliot concluded that “(pred0)w0” and “(pred1)w1” are “predictions.” RX-1945.0142 (1380 ID); Tr. (Schonfeld) at 1365:16-21; RDX-0005C.141.

Moreover, Dr. Schonfeld explained that the predictions “(pred0)w0” and “(pred1)w1” have a second precision of 16 bits—as illustrated in Walker’s Table 2—which is higher than the first precision of 8 bits. JX-0683.019 (Walker) at Table 2; Tr. (Schonfeld) at 1362:12-16; RDX-0005C.136. Dr. Schonfeld testified that, in the 1380 investigation, he applied a construction of

⁸ Under Respondents’ alternate theory, discussed below in Section IV.C.4, “pred0” and “pred1” are themselves the first and second predictions.

“precision” that is consistent with Respondents’ proposed construction of “precision” in this case because this understanding of “precision” is supported by (1) the language of the claims, which specify that “precision indicates a number of bits needed” to represent pixel and prediction values; (2) the ’267 patent’s specification, which consistently refers to “precision” as a number of bits; and (3) named inventor Jani Lainema’s testimony that “the number of bits needed to represent a prediction” is an “example of precision.” Tr. (Schonfeld) at 1362:17-1363:19; RX-4058.0253 at 1295:6-15; JX-0007.023 (’267 patent) at 13:10-18, -.025 at 18:51-52, -.027 at cl. 12, -.028 at cl. 30; JX-0181C.031 at 166:18-20, 167:1-2; RDX-0005C.137-138. In the 1380 investigation, there was no dispute regarding the meaning of “precision,” and ALJ Elliot found this limitation satisfied based on Dr. Schonfeld’s analysis. RX-1945.0141-143; Tr. (Schonfeld) at 1363:21-1364:8.

e) Encoding Claim Elements 7[e]-7[f]

There is no dispute that Walker obtains a combined prediction—“(pred0)w0 + (pred1)w0 + 2^{LWD-1} ”—which is based at least partly on the first prediction “(pred0)w0” and the second prediction “(pred1)w1.” Tr. (Schonfeld) at 1365:22-1366:4; JX-0683.018 (Walker) at ¶ 68, -.019 at Table 2; RDC-0005C.142.

There is also no dispute that Walker decreases the precision of the combined prediction through right shifting. Tr. (Schonfeld) at 1366:5-16; RDX-0005C.142. Specifically, the right shift is represented by double carets (“>>”) in Walker’s biprediction equation, and the combined prediction is shifted to the right by amount “LWD + 1.” Tr. (Schonfeld) at 1366:5-16; JX-0683.018-019 (Walker) at ¶ 68, Table 2. Walker’s right shift decreases the precision of the combined prediction from 18 bits to 10 bits, as shown in Walker’s Table 2. Tr. (Schonfeld) at 1366:11-16; JX-0683.019 (Walker) at Table 2. ALJ Elliot found these limitations satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

f) Encoding Claim Element 7[g]

It is also undisputed that Walker obtains “residual error” by subtracting the combined prediction (*i.e.*, the Walker’s “weighted combined bi-directional macroblock”) from the block of pixels (*i.e.*, Walker’s “current macroblock”). Tr. (Schonfeld) at 1366:17-1367:4; JX-0683.013 (Walker) at ¶ 28, -.015 at ¶ 34; RDX-0005C.143. Nokia does not dispute that Walker encodes this residual data in the bitstream. Tr. (Schonfeld) at 1366:24-1367:8; JX-0683.013 (Walker) at ¶ 28, -.015 at ¶ 34. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145.

g) Encoding Claim 1

Dr. Schonfeld testified that the ’267 patent’s apparatus claims contain all the limitations of the corresponding method claims such that if the apparatus claims are found invalid, the corresponding method claims should also be found invalid. Tr. (Schonfeld) at 1350:21-1351:13; RDX-0005C.115. Because apparatus claim 7 is invalid in view of Walker, as described above, corresponding method claim 1 is also invalid in view of Walker.

h) Encoding Claims 2 and 8

Walker also invalidates encoding claims 2 and 8. As Dr. Schonfeld explained, Walker’s motion vectors can point to “subpixel[s]” or “interpolated pixel[s].” Tr. (Schonfeld) at 1370:25-1371:20; JX-0683.010 (Walker) at Fig. 9, -.020-021 at ¶¶ 111, 114 (stating motion vectors can point to “interpolated or half-pixels”); RDX-0005C.150. Dr. Schonfeld also testified that Walker obtains its first prediction by interpolating values of the first reference block using an interpolation filter. Tr. (Schonfeld) at 1371:21-1372:11; JX-0683.008 (Walker) at Fig. 8, -.020-021 at ¶¶ 111, 114; RDX-0005C.151; *see also* Tr. (Schonfeld) at 1350:21-1351:13; RDX-0005C.115. As explained below, in Sections IV.C.3 and IV.D.4, Dr. Schonfeld provided additional evidence and analysis as to why these encoding claims are invalid.

i) Decoding Claim Element 25[pre]

It is undisputed that Walker discloses decoder devices, which are apparatuses for decoding a block of pixels. JX-0683.012-013 (Walker) at ¶¶ 3, 25, Fig. 1; Tr. (Schonfeld) at 1358:23-1359:10; RDX-0005C.132. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

j) Decoding Claim Element 25[a]

It is also undisputed that Walker implements its encoding and decoding methods using a processor and memory that includes computer program code (*e.g.*, a software module). JX-0683.022 (Walker) at ¶¶ 122-123; Tr. (Schonfeld) at 1359:11-22; RDX-0005C.133. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

k) Decoding Claim Element 25[b]

Dr. Schonfeld testified at the evidentiary hearing that, for a given block, Walker determines a first reference block (*i.e.*, a block of pixels in a reconstructed “previous reference picture 510”) based on a first motion vector (*i.e.*, encoded “motion vector[] 525”) and a second reference block (*i.e.*, a block of pixels in a reconstructed “subsequent reference picture 575”) based on a second motion vector (*i.e.*, encoded “motion vector[] . . . 585”). JX-0683.015 (Walker) at ¶ 35, -.006 at Fig. 5; Tr. (Schonfeld) at 1367:9-1368:3; RDX-0005C.144. Dr. Schonfeld again explained that Walker’s motion vectors may point “either to the original integer pixels or to the subpixels in between” Tr. (Schonfeld) at 1368:1-3. As with the encoder claims, Dr. Schonfeld testified that Walker’s first precision is 8 bits for the decoder claims. Specifically, the first and second reference blocks are comprised of “8-bit luminance and . . . 8-bit chrominance R and chrominance B” values. Tr. (Schonfeld) at 1368:4-17; *see also* JX-0683.014 (Walker) at ¶ 30, -.017-019 at ¶ 60, -.019 at ¶ 92, -.020 at Table 4; RDX-0005C.145. Dr. Schonfeld also noted that Table 4 shows that

“pred0” and “pred 1”, which are comprised of pixels from the first and second reference blocks when the motion vectors point to integer pixels, have a precision of 8 bits. Tr. (Schonfeld) at 1368:6-17; JX-0683.020 (Walker) at Table 4. These disclosures satisfy each proposed construction of “precision” because Walker discloses that 8 bits (*i.e.*, 256 distinct alternatives) are needed to represent the possible pixel values in the reference blocks. JX-0683.014 (Walker) at ¶ 30. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

l) Decoding Claim Elements 25[c]-25[d]

As Dr. Schonfeld testified at the evidentiary hearing, Walker’s decoder obtains a first prediction (*i.e.*, “((pred0)_{W_A})>>6”) and a second prediction (*i.e.*, “((pred1)_{W_B})>>6”) based on the first reference block and second reference block.⁹ JX-0683.019 (Walker) at ¶ 92, -.020 at Table 4; Tr. (Schonfeld) at 1368:18-1369:4; RDX-0005C.146. Further, Dr. Schonfeld testified that the first prediction “((pred0)_{W_A})>>6” and second prediction “((pred1)_{W_B})>>6” have a second precision of 17 bits—as illustrated by Walker’s Table 4—which is higher than the first precision of 8 bits. Tr. (Schonfeld) at 1368:21-1369:5; JX-0683.020 (Walker) at Table 4. Walker’s “((pred0)_{W_A})>>6” and “((pred1)_{W_B})>>6” are predictions and have increased precision, for the same reason that “(pred0)_{w0}” and “(pred1)_{w1}” are predictions and have increased precision with respect to the encoding claims. *See* Section IV.C.2.d. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

m) Decoding Claim Elements 25[e]-25[f]

It is undisputed that Walker obtains a combined prediction—“((pred0)_{W_A})>>6) + ((pred1)_{W_B})>>6) + 2⁷”—which is based at least partly on the first prediction “(pred0)_{W_A})>>6” and

⁹ Under Respondents’ alternate theory, discussed below in Section IV.C.4, “pred0” and “pred1” are themselves the first and second predictions.

the second prediction “(pred1)_{WB}>>6”. Tr. (Schonfeld) at 1369:5-9; JX-0683.019-020 (Walker) at ¶ 92, Table 4; RDX-0005C.147.

It is also undisputed that Walker decreases the precision of the combined prediction by shifting bits to the right. Tr. (Schonfeld) at 1369:10-20; RDX-0005C.147. Walker’s right shift is the double caret symbol (“>>”), and Table 4 in Walker confirms that the combined prediction is shifted to the right by 8 bits, which decreases the precision of the combined prediction from 19 bits to 11 bits. Tr. (Schonfeld) at 1369:10-20; JX-0683.019-020 (Walker) at ¶ 92, Table 4. ALJ Elliot found these limitations satisfied in the 1380 investigation. RX-1945.0145 (1380 ID).

n) Decoding Claim Element 25[g]

It is also undisputed that Walker creates a “reconstructed macroblock” or an “output picture” based on a combined prediction (*i.e.*, “combined weighted prediction”). Tr. (Schonfeld) at 1369:21-1370:12; JX-0683.015 (Walker) at ¶ 35, -.020-021 at ¶ 111, -.009 at Fig. 8; RDX-0005C.148. ALJ Elliot found this limitation satisfied in the 1380 investigation. RX-1945.0145.

o) Decoding Claim 19

Dr. Schonfeld testified that the ’267 patent’s apparatus claims contain all the limitations of the corresponding method claims such that if the apparatus claims are found invalid, the corresponding method claims should also be found invalid. Tr. (Schonfeld) at 1351:14-22; RDX-0005C.116. Because apparatus claim 25 is invalid in view of Walker, as described above, corresponding method claim 19 is also invalid in view of Walker for the same reasons.

p) Decoding Claims 20 and 26

Walker also invalidates decoding claims 20 and 26. Again, Walker’s motion vectors can point to “subpixel[s]” or “interpolated pixel[s].” Tr. (Schonfeld) at 1370:25-1371:20; JX-0683.010 (Walker) at Fig. 9, -.020-021 at ¶¶ 111, 114 (stating motion vectors can point to “interpolated or

half-pixels”); RDX-0005C.150; *see also* Tr. (Schonfeld) at 1351:14-22; RDX-0005C.116. Dr. Schonfeld also testified that Walker discloses obtaining the first prediction by interpolating values of the first reference block using an interpolation filter. Tr. (Schonfeld) at 1371:21-1372:11; JX-0683.008 (Walker) at Fig. 8, -.020-021 at ¶¶ 111, 114; RDX-0005C.151. Walker’s Figure 8 explicitly shows interpolation in a decoder device. JX-0683.0009 (Walker) at Fig. 8; Tr. (Schonfeld) at 1372:6-11. ALJ Elliot found claim 26 invalid based on Walker in the 1380 investigation. RX-1945.0145 (1380 ID).

3. Encoding Claims 2 and 8 – Dr. Schonfeld Provided Additional Invalidity Analysis to Address ALJ Elliot’s Concerns Regarding Encoder-Side Interpolation

In the 1380 investigation, ALJ Elliot concluded that “the difference between [claim 8] and the prior art is almost negligible” and that Dr. Schonfeld showed “it would have been entirely reasonable given the technology that the encoder and decoder create prediction values with the same techniques” (*i.e.*, interpolation). RX-1945.0144 (1380 ID); RDX-0005C.153. But ALJ Elliot found that there was insufficient evidence that a POSITA would have had a reasonable expectation of success in applying Walker’s decoder-focused interpolation teachings in an encoder. RX-1945.0146 (1380 ID). Dr. Schonfeld more than overcame that evidentiary shortfall here.

First, Dr. Schonfeld testified about the level of ordinary skill in the art, which is significant here. Tr. (Schonfeld) at 1375:12-18; RDX-0005C.156.

Second, Dr. Schonfeld explained that a POSITA would generally have understood that when interpolation is performed at the decoder, it is also performed at the encoder. Tr. (Schonfeld) at 1375:25-1376:15. That is because a POSITA would have understood that interpolation should be performed in the *same way* at the encoder and decoder. *Id.*; RDX-0005C.157. Therefore, one of ordinary skill would have known that Walker’s decoder interpolation teachings apply equally

to encoding. Tr. (Schonfeld) at 1376:20-1377:3; JX-0683.009 (Walker) at Fig. 8, -.020-021 at ¶¶ 111, 114. Notably, Nokia did not dispute that (1) interpolation was known and within the level of ordinary skill for a POSITA, or (2) interpolation could have been incorporated into Walker’s encoder to render claims 2 and 8 obvious. In fact, Dr. Moulin testified that interpolation has been known for centuries. *See* Tr. (Moulin) at 341:2-14 (“Gauss and Laplace in the 1700s were already doing interpolation in the 1700s.”).

Third, Dr. Schonfeld noted that *Walker’s paragraph 111 explicitly discloses that “[a]n encoder can perform pixel interpolation”*—a fact that he did not emphasize in his 1380 investigation testimony. JX-0683.021 (Walker) at ¶ 111; Tr. (Schonfeld) at 1377:4-13; RDX-0005C.159. This disclosure provides even greater support for his invalidity opinions.

In short, Dr. Schonfeld’s additional analysis for claims 2 and 8 forecloses any doubt that these asserted claims are invalid in view of Walker. *See* Tr. (Schonfeld) at 1350:21-1351:13 (noting that if the apparatus claims are invalid, so are the corresponding method claims); RDX-0005C.115.

4. Walker Invalidates All Claims Under All Proposed Constructions of “Precision”

If the ALJ adopts Nokia’s or Staff’s proposed construction of “precision,” the ’267 patent asserted claims are still rendered obvious by Walker. Despite not raising a dispute about the meaning of “precision” in the 1380 investigation, Nokia now proposes the term should be construed to mean: “Plain and ordinary meaning, which means a measure of the number of distinct alternatives from which a value can be determined: for example, in binary representation, a number of bits required to represent each possible distinct alternative.” Nokia Pre-Hearing Brief at 92-93; Tr. (Schonfeld) at 1363:21-1364:8 (noting there was no dispute about the term “precision” in the 1380 investigation). Staff has also proposed that the term “precision” be construed to mean: “The

number of bits (in binary representation) required to represent each possible distinct alternative.”
Nokia Pre-Hearing Brief at 92-93.

Dr. Schonfeld explained that “the [latter] portion of Nokia[’s proposed construction], Respondent[’s construction], and Staff[’s construction] all deal with the number of bits needed, either to represent possible values or to represent each possible distinct alternative.” Tr. (Schonfeld) at 1385:6-15. According to Dr. Schonfeld, “[t]he major differen[ce] with Nokia is the first part states that it’s *a measure of the number of distinct alternatives from which a value can be determined.*” *Id.* To account for the different proposed claim constructions for “precision,” Dr. Schonfeld analyzed Walker under Nokia’s proposed construction “because that’s the biggest difference, and in the process of addressing Nokia’s proposed construction, it will address any differences between Nokia[’s], Respondent[’s], and Staff[’s] in the process of doing so.” Tr. (Schonfeld) at 1384:23-1385:5. Nokia disputes that Walker obtains predictions with increased precision under its proposed construction of “precision.” Nokia Pre-Hearing Brief at 111-12. As Dr. Schonfeld explained, Walker alone renders obvious the ’267 patent Asserted Claims under Nokia’s proposed construction for two independent reasons.

First, Walker explains that its “weights have a wide variance.” Tr. (Schonfeld) at 1386:4-16. Specifically, on the encoder side, the weights “w0” and “w1” “can take on values of minus 128 to plus 127,” which is a total of 256 possible values. *Id.*; JX-0683.018 (Walker) at ¶ 68, Table 1; RDX-0005C.176. Dr. Schonfeld testified that “each block is very likely to have different values of weights,” and as a result, Walker’s predictions “(pred0)w0” and “(pred1)w1” have increased precision compared to “pred0” and “pred1” because “(pred0)w0” and “(pred1)w1” have “more alternatives than you had prior to the multiplication by the different weights.” Tr. (Schonfeld) at 1386:4-16. Similarly, Walker’s decoder includes functionality for “modify[ing] weights” “w_A”

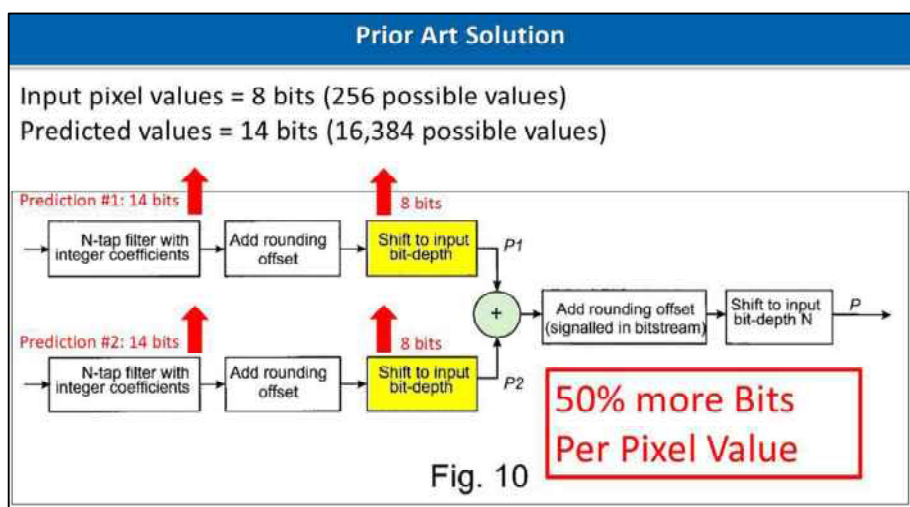
and “w_B.” Tr. (Schonfeld) at 1386:17-1387:7; JX-0683.009 (Walker) at Fig. 8, -.019 at ¶ 92; RDX-0005C.177. As Dr. Schonfeld testified, “as you modify the weights, you change the different weights, it increases the number of alternative possible values that can be realized” such that “(pred0)_{w_A}” and “(pred1)_{w_B}” have more alternatives than “pred0” and “pred1.” Tr. (Schonfeld) at 1386:17-1387:7.

In his rebuttal testimony, Dr. Richardson argued that various standards and specifications that are discussed in Walker have consistent weights for a given block, reference frame, or “slice.” Tr. (Richardson) at 1917:12-1925:2. However, as Dr. Richardson conceded on cross examination, Walker states that these standards and specifications are merely “examples” and that “other implementations of bi-prediction can be accommodated . . .” Tr. (Richardson) at 1986:16-21; JX-0683.017 (Walker) at ¶ 46. Regardless, the only relevant fact is that—as Dr. Schonfeld testified—a POSITA would understand that Walker’s weights “w0” and “w1” have 256 possible values, varying from -128 to 127, and therefore “(pred0)_{w0}” and “(pred1)_{w1}” have more possible values than “pred0” and “pred1.” Tr. (Schonfeld) at 1386:4-16. Because Dr. Richardson limited his testimony to only the specific standards and specifications discussed in Walker, Dr. Schonfeld’s testimony on this point stands unrebutted. In fact, both Dr. Richardson and Dr. Moulin agreed that multiplying one variable that can take the full range of its possibilities, like “pred0” and “pred1”, by another variable that can take the full range of its possibilities, like “w0” and “w1,” results in a value with an increased number of possible values. Tr. (Moulin) at 353:22-356:18; Tr. (Richardson) at 1990:5-11.

Second, Walker teaches that “pred0” and “pred1” can be interpolated, and specifically encourages “that other pixel interpolation methods could be used.” Tr. (Schonfeld) at 1387:8-1388:14; JX-0683.009 (Walker) at Fig. 8, -.021 at ¶¶ 111, 114; RDX-0005C.178. Again, Nokia

has never alleged that the '267 patent claims novel interpolation methods, and a POSITA could have leveraged an interpolation filter that increases precision—the same as Nokia's infringement theory—as part of Walker's bi-prediction architecture. Tr. (Schonfeld) at 1387:8-14. As Dr. Schonfeld explained, if Nokia applies the same theory for infringement and invalidity, then Walker and the Accused Products either (1) both obtain predictions with increased precision or (2) both do not. Tr. (Schonfeld) at 1388:6-14.

In fact, Nokia's counsel agreed that prior art interpolation methods could generate predictions with increased precision (*e.g.*, 14 bits, 16,384 possible values) based on lower precision input values (*e.g.*, 8 bits, 256 possible values):



CDX1.91; *see also* Tr. at 42:8-18. As illustrated in Nokia's own opening slides, Figure 10 of the '267 patent depicts a prior art bi-directional prediction process, and Nokia has conceded that these prior art processes obtained predictions with higher precision, as evidenced by Nokia's "Prediction #1: 14 bits," "Prediction #2: 14 bits," and "14 bits (16,384 possible values)" annotations. *See* CDX1.88-91 (same annotations in each). Consistent with this, Dr. Moulin explained that there was no substantive different between the "N-tap" interpolation filter in the prior art (*i.e.*, Figure 10), and the "P-tap" interpolation depicted in the alleged invention of the '267 patent (*i.e.*, Figure 11).

Tr. (Moulin) at 346:16-347:16. Applying the same or similar interpolation filter to Walker, as Walker expressly encourages those of ordinary skill to do, would lead to the same conclusion. Obtaining Walker’s “pred0” and “pred1” by interpolation would lead to more possible values and more bits needed to represent those possible values, thus providing further grounds for invalidation of the ’267 patent. *See* Tr. (Schonfeld) at 1387:8-1388:14; JX-0683.021 (Walker) at ¶ 114.

D. Walker in Combination with Srinivasan Renders the Asserted Claims Obvious

Dr. Schonfeld further explained how the ’267 patent is rendered obvious by Walker in combination with Srinivasan. The rationale for presenting this additional invalidity argument is simple—the mapping of the ’267 patent’s claims to the combination of Walker and Srinivasan is practically identical to the mapping Nokia presented at the hearing for infringement purposes. As explained below, (1) a motivation exists to combine Walker and Srinivasan, (2) Srinivasan teaches obtaining predictions with heightened precision using interpolation, and (3) Srinivasan explicitly teaches encoder-side interpolation.

1. Overview of Srinivasan

Srinivasan was filed March 4, 2003 and is prior art to the ’267 patent. RX-2024.001 (Srinivasan). Srinivasan is titled “Sub-Pixel Interpolation in Motion Estimation and Compensation” and is directed to techniques for video encoders and decoders to maintain higher precision during multi-stage interpolation and defer bit-shifting until later stages. RX-2024.0001 (Srinivasan) at Abstract.

Specifically, Srinivasan explains that “encoders and decoders fail to account for the accumulation of rounding error that might be created in multi-stage interpolation.” RX-2024.0018 (Srinivasan) at 4:56-62. As a solution, Srinivasan proposes “retaining prevision in multi-stage interpolation by deferring clamping and/or bit shifting . . . until later stages” RX-2024.0019

(Srinivasan) at 6:42-49. In other words, both Srinivasan and the '267 patent seek to solve the issue of accumulating rounding errors by delaying rounding. RX-2024.0018-19 (Srinivasan) at 4:56-62, 6:42-29; JX-0007 ('267 patent) at 6:53-57.

Critically, Srinivasan's Figure 14 shows a multi-stage interpolation process with x-bit input values, y-bit intermediate values where $y > x$, and a final output with a dynamic range of, for example, "x+1" bits. RX-2024.0014 (Srinivasan) at Fig. 14, -.0027 at 21:33-47; RDX-0005C.164. Srinivasan expressly states that the output bit-depth "can be extended arbitrarily" and that "the input and output values [can] have dynamic ranges of different bit depth." RX-2024.0026 (Srinivasan) at 20:30-32. Srinivasan applies these teachings to encoders and decoders and explains its interpolation techniques can be implemented as part of bi-directional prediction. RX-2024.0001 (Srinivasan) at Abstract, -.0021 at 9:37-39.

2. A Motivation to Combine Walker and Srinivasan Exists

Dr. Schonfeld identified five independent reasons why a POSITA would have been motivated to combine Walker and Srinivasan. Tr. (Schonfeld) at 1380-82; RDX-0005C.167-171.

First, both references are analogous references in the same field—video coding and decoding. Tr. (Schonfeld) at 1381:3-4; JX-0683.012 (Walker) at ¶ 3; RX-2024.0001 (Srinivasan) at Abstract; RDX-0005C.167.

Second, both references teach interpolation as part of bidirectional prediction and share nearly identical figures. Walker's Figure 9 and Srinivasan's Figure 9 both depict integer pixel locations and interpolated sub-pixel positions. Tr. (Schonfeld) at 1381:5-7; JX-0683.010 (Walker) at Fig. 9; RX-2024.0010 (Srinivasan) at Fig. 9; RDX-0005C.168.

Third, both references teach techniques applicable to the same or similar existing video coding standards—Walker to WMV9, MPEG-4, H.263/H.264, and Srinivasan to WMV8, MPEG-

4, H.263. Tr. (Schonfeld) at 1381:10-14; JX-0683.017 (Walker) at ¶¶ 47-48, 56-59; RX-2024.0018 (Srinivasan) at 3:15-17, 4:25-27; RDX-0005C.169.

Fourth, combining Walker and Srinivasan would improve coding efficiency and reduce prediction error—directly addressing the rounding error accumulation problem both references identify. Tr. (Schonfeld) at 1381:15-24; JX-0683.021 (Walker) at ¶ 111; RX-2024.0018 (Srinivasan) at 4:56-62, -.0024 at 16:65-67; RDX-0005C.170.

Fifth, a POSITA would have had a reasonable expectation of success in combining Walker and Srinivasan because (1) interpolation was well-known and taught in introductory engineering courses; (2) Walker and Srinivasan teach that interpolation was widely used in prior art methods; (3) Walker and Srinivasan employ compatible and similar interpolation techniques, and Walker expressly acknowledges that other interpolation methods could be used; and (4) both references discuss implementing bi-directional prediction with interpolation. Tr. (Schonfeld) at 1381:25-1382:13; JX-0683.021 (Walker) at ¶ 114; RDX-0005C.171.

3. Srinivasan Teaches Obtaining Predictions With Heightened “Precision” Using Interpolation

Srinivasan obtains predictions with heightened precision using interpolation filters, consistent with Nokia’s infringement theory. During the evidentiary hearing, Dr. Moulin testified that the Accused Products obtain predictions with heightened precision by (1) receiving input pixels with X bits of bit-depth, (2) performing interpolation using a P-tap interpolation filter, and (3) outputting interpolated pixel values with bit-depth higher than X bits. *See, e.g.*, Tr. (Moulin) at 303:24-306:10; CDX3C.125-127. According to Dr. Moulin, this increases the number of distinct possible alternative pixel values under Nokia’s proposed construction of “precision.” *Id.* Critically, the ’267 patent does not claim novel interpolation techniques that increase precision—Nokia has never alleged that it does. Also, Dr. Richardson provided a helpful explanation of Nokia’s

proposed construction for “precision” where he equated an increase in the number of possible values to an increase in dynamic range: “If we increase the number of possibilities, something called high *dynamic range*, we need more bits to represent those possibilities.” Tr. (Richardson) at 1914:9-23 (emphasis added).

Dr. Schonfeld explained at the evidentiary hearing that Srinivasan’s interpolation filter can expand the output bit-depth by an “arbitrary” amount compared to the input bit-depth. Tr. (Schonfeld) at 1388:15-1389:5; RX-2024.0026 (Srinivasan) at 20:30-32; RDX-0005C.166. In one specific example provided by Srinivasan, “the input values have a *dynamic range* of 8 bits” and “the *dynamic range* of the output value is equal to . . . $x+1$.” RX-2024.0027 (Srinivasan) at 21:33-47; *see also* Tr. (Schonfeld) at 1388:15-1389:5; RDX-0005C.179. Moreover, Srinivasan states that, in some embodiments, “the input and/or output values have *dynamic ranges* of different bit depth”—*i.e.*, the input and output values can have different precisions. RX-2024.0026 (Srinivasan) at 20:30-32; *see also* RDX-0005C.179.

Based on the foregoing, the evidence is clear: Srinivasan (1) receives input pixels with X bits of bit-depth or dynamic range, (2) performs interpolation using an interpolation filter, and (3) outputs interpolated pixel values with a dynamic range higher than X bits. According to Dr. Richardson, an increase in dynamic range is equivalent to an increase in the number of alternatives. Tr. (Richardson) at 1914:9-23. Thus, Srinivasan’s interpolation process increases the number of possible values—which corresponds to an increase in “precision” under Nokia’s proposed construction—in the same manner as the Accused Products under Nokia’s infringement theory.

4. Encoding Claims 2 and 8 – Srinivasan Teaches Encoder-Side Interpolation

Srinivasan further discloses that an encoder can implement its teachings and perform “pixel interpolation for a subpixel resolution of the motion vector” with deferred bit shifting. Tr.

(Schonfeld) at 1382:14-25; RX.2024.0001 (Srinivasan) at Abstract; RDX-0005C.165. In other words, when a motion vector points to a subpixel, Srinivasan discloses obtaining predicted pixel values via interpolation.

E. Nokia’s Validity Arguments Fail

Nokia’s expert, Dr. Richardson, advanced a number of validity arguments with respect to the ’267 patent at the evidentiary hearing. They all fail.

1. The ALJ Should Reject Dr. Richardson’s Argument That “(pred0)w0” and “(pred1)w1” Are Not Predictions

Dr. Richardson incorrectly argues that Walker’s “(pred0)w0” and “(pred1)w1” are not “predictions” as claimed in the ’267 patent. Tr. (Richardson) at 1906:18-8, 1909:14-1911:11; CDX11.29-31. The sole basis for this argument was Dr. Richardson’s conclusory statement that Walker describes “pred0” and “pred1” as predictions, so “(pred0)w0” and “(pred1)w1” are “not described as . . . prediction[s] in Walker, and a person of ordinary skill would not recognize [them] as . . . prediction[s] in Walker. Tr. (Richardson) at 1910:25-1911:3. Dr. Richardson did not address ALJ Elliot’s findings from the 1380 Investigation, in which he concluded that Walker’s “(pred0)w0” and “(pred1)w1” were “predictions” within the ’267 patent’s claims. RX-1945.0142 (1380 ID); Tr. (Richardson) at 1983:3-1985:5. Nor did Dr. Richardson explain why “(pred0)w0” and “(pred1)w1” are *not* predictions simply by virtue of “pred0” and “pred1” being predictions; indeed, all four are in fact predictions. Tr. (Richardson) at 1906:18-8, 1909:14-1911:11. Dr. Richardson also did not cite any intrinsic evidence from the ’267 patent to support his cramped interpretation of “prediction”, which is one of the main reasons ALJ Elliot previously rejected this argument in the 1380 Investigation. *See* RX-1945.0142 (1380 ID). Finally, Dr. Richardson did not rebut Dr. Schonfeld’s testimony concerning the ’267 patent’s left-shifting teachings and his conclusion, based on those teachings, that “prediction” in the ’267 patent’s claims is broad enough

to include weighted values. Tr. (Schonfeld) at 1364:9-15; JX-0007.027 ('267 patent) at cl. 10; JX-0683.017 (Walker) at ¶ 46. Indeed, Dr. Richardson testified that he did not recall considering the '267 patent's left-shifting claims when conducting his invalidity analysis. Tr. (Richardson) at 1991:7-1992:16.

2. The ALJ Should Reject Dr. Richardson's Argument That Walker Does Not Teach Predictions With Increased Precision

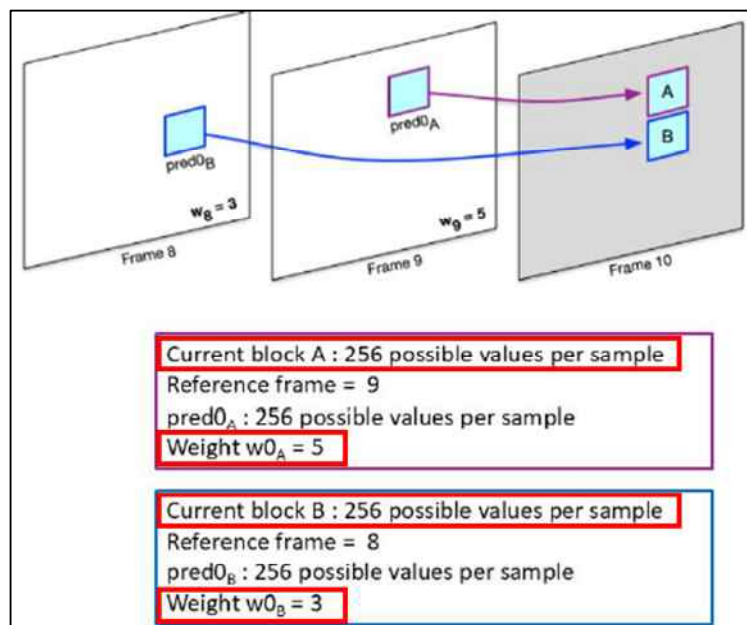
Dr. Richardson also incorrectly argues that Walker does not teach obtaining predictions at heightened precision under all proposed constructions of “precision.” Tr. (Richardson) at 1911:4-1925:2; CDX11.32-48.

With respect to Respondents' proposed construction of “precision”—which is “a number of bits needed to represent possible values”—Dr. Richardson argues that Walker merely “use[s]” 16 bits to represent the values “(pred0)w0” and “(pred1)w1”. Tr. (Richardson) at 1916:4-1917:11. But Walker does not simply “use” 16 bits—Walker “needs” 16 bits to represent possible values of “(pred0)w0” and “(pred1)w1” because “pred0” and “pred1” are each comprised of 8-bit pixels with 256 possible values and “w0” and “w1” are 8-bit weights with 256 possible values (ranging from -128 to 127). JX-0683.014 (Walker) at ¶ 30, -.018 at Table 1. As Walker shows, 16 bits are needed to represent the multiplication product of two 8-bit variables. JX-0683.019 (Walker) at Table 2. And once again, Dr. Richardson did not address the 1380 ID, where ALJ Elliot found that Walker generated predictions with increased precision consistent with Respondents' proposed construction. Tr. (Richardson) at 1983:3-1985:5.

Dr. Richardson also argued that “(pred0)w0” and “(pred1)w1” do not have increased precision because weights “w0” and “w1” do not vary at the block level. Tr. (Richardson) at 1917:12-1925:2. This argument fails for all the reasons previously discussed. In fact, Dr. Richardson

admitted that Walker's weights can vary from block to block (as evidenced by the example from his demonstratives, which applies weights of 3 and 5 for different blocks in a bi-directional prediction). CDX11.48 (excerpted and annotated, right).

Dr. Richardson also misapplies Nokia's construction of "precision,"



which is "a measure of the number of distinct alternatives from which a *value* can be determined." Nokia Pre-Hearing Brief at 92-93. Nothing in Nokia's construction suggests that it must be applied on a block-by-block basis. Respondents identified "(pred0)w0" and "(pred1)w1" as the first and second predictions, so the proper inquiry, under Nokia's construction, is how many distinct alternatives there are for "(pred0)w0" and "(pred1)w1." Here, the evidence is undisputed that when Walker's motion vectors point to pixels, "pred0" and "pred1" are comprised of 8-bit pixel values with 256 possible values and that the values of weights "w0" and "w1" can vary from -128 to 127. Dr. Richardson agreed that "multiplying a variable that can take the full range of its possible values [e.g., the pixel values of "pred0" and "pred1"] by another variable that can take the full range of its possible values [e.g., the weights "w0" and "w1"] can *increase the number of possible values for the resulting product . . .*" Tr. (Richardson) at 1990:5-11 (emphasis added); CDX11.48; *see also* Tr. (Moulin) at 353:22-356:18. Thus, Walker's "(pred0)w0" and "(pred1)w1" have an increased number of distinct alternatives compared to "pred0" and "pred1," and therefore have a second, higher precision under Nokia's proposed construction.

Lastly, with respect to Respondents' alternative invalidity theory for Walker—where “pred0” and “pred1”, when interpolated, are the first and second “predictions”—Dr. Richardson testified that “pred0” and “pred1” do not have increased precision because “Walker’s pixel interpolation does not generate anything other than 8-bit prediction values.” Tr. (Richardson) at 1925:3-1926:18. However, Dr. Richardson did not address Dr. Schonfeld’s point that Walker expressly discloses “other pixel interpolation methods [than those explicitly disclosed in Walker] could be used.” Tr. (Schonfeld) at 1387:8-1388:14; *see also* RDX-0005C.178; JX-0683.009 (Walker) at Fig. 8, -.021 at ¶¶ 111, 114. And Dr. Richardson’s argument contradicts Nokia’s opening statement, when Nokia’s counsel acknowledged that prior art interpolation methods could generate predictions with increased precision (*e.g.*, 14 bits) based on lower precision input values (*e.g.*, 8 bits):

And so this is Fig. 10 from the patent, and it represents the *prior art*. And this was the problem, Your Honor.

Now, as I've indicated at the top of the screen in this example the pixel values -- these are the pixels that are at the pixel locations -- ***the pixel values are 8 bits. The predicted values which can be the results of subpixel interpolation are 14 bits. They have over 16,000 potential values.*** And below in red we have our two predictions we're trying to combine into a single bi-predicted value.

Tr. at 42:8-18 (emphasis added); *see also* CDX1.88-91. Dr. Schonfeld explained that a POSITA could have implemented interpolation filters that increase precision—such as those disclosed in Srinivasan, Nokia’s opening slides, or other known methods—as part of Walker’s architecture. Dr. Richardson’s contrary testimony should not be credited because he focused on the interpolation methods explicitly disclosed in Walker and did not consider these other prior art interpolation methods. *See* Tr. (Richardson) at 1917:12-1925:2; CDX11.38-48.

3. The ALJ Should Reject Dr. Richardson's Argument That Srinivasan Does Not Teach Predictions With Increased Precision

Dr. Richardson's testimony that Srinivasan does not teach obtaining predictions with increased precision is incorrect for numerous reasons.

First, Dr. Richardson incorrectly suggested that Srinivasan's statement that the bit depth of its values can be "extended arbitrarily" is limited to only "intermediate values":

Q. I want to ask you about something on your slide 53, which cites to Dr. Schonfeld's slide 166. There's a red underline under "extended arbitrarily." And I think the sentence says, the intermediate values can be extended arbitrarily. What is your understanding of what the intermediate values refers to there?

A. So the intermediate values are, in a sort of analogous way to the pred0 times w0 values, are what Srinivasan describes as just that, as values that are calculated during the interpolation process, but they are not -- the intermediate values are not the output of the interpolation process.

Tr. (Richardson) at 1927:14-1928:1; *see also* CDX11.53. The disclosures of Srinivasan prove him wrong. Srinivasan explains: "[T]he choice of bit depth for the input values of the first stage, *the output values of the last stage*, and the intermediate values *can be extended arbitrarily*" RX-2024.0026 (Srinivasan) at 20:21-25. "Under conventional rules of grammar, when there is a straightforward, parallel construction that involves all nouns or verbs in a series, a modifier at the end of the list normally applies to the entire series." *Facebook, Inc. v. Duguid*, 592 U.S. 395, 402-03 (2021) (cleaned up). Thus, under a proper reading of Srinivasan, the bit depth of its interpolation output values "can be extended arbitrarily," along with the input and intermediate values. RX-2024.0026 (Srinivasan) at 20:21-25.

In fact, when confronted with the full quotation from Srinivasan on cross examination, Dr. Richardson changed his answer to suggest that the interpolated input and output values can also be extended arbitrarily, as long as they are extended by the same amount:

[Q.] And, Dr. Richardson, this is the portion of Srinivasan that you're referring to that begins, the second sentence, the specific choice of bit-depth for the input values for the first stage, the output values of the last stage, and the intermediate values can be extended arbitrarily in accordance with the technical specifications of a target architecture or application. Correct?

A. That's the entire sentence I believe we're discussing.

Q. So it's more than just the intermediate values. Srinivasan also in this passage refers to the input values and the output values, correct?

A. And, in my opinion, that's entirely consistent with, for example, a 10-bit implementation rather than an 8-bit implementation. *And that was known, I think, by the time of Srinivasan, that one could work with 10-bit pixel values from the start and create, for example, 10-bit predictions.*

So I think that's just consistent with what we're seeing here. And I think Srinivasan actually mentions, as I recall, known standards such as H.264, which contemplate higher bit-depths throughout.

Tr. (Richardson) at 2038:21-2039:18 (emphasis added). But that reading of Srinivasan is also incorrect because Srinivasan expressly discloses that “*the input values and/or output values [can] have dynamic ranges of different bit depth . . .*” RX-2024.0026 (Srinivasan) at 20:30-32. In other words, the dynamic ranges of the output values can be different from that of the input values.

Srinivasan is thus quite clear: the bit-depth of its interpolation output values can be extended arbitrarily, and the dynamic ranges (*i.e.*, precision) of the output values can be different from the input values. *See* Tr. (Richardson) at 1914:9-23 (equating an increase in “dynamic range” with an increase in the number of possible alternatives under Nokia’s proposed construction of “precision”). Dr. Richardson’s contrary arguments should be rejected.

Second, in relation to Srinivasan’s disclosure that “the dynamic range (in bits) of the output value is equal to . . . $x+1$ ”, Dr. Richardson testified that “the extra bit, which is at the last but one stage in Srinivasan, is there to deal with overflow and underflow, and it’s not part of the output, the final interpolated value” RX-2024.0027 (Srinivasan) at 21:46-47; Tr. (Richardson) at 1928:6-1929:5. Dr. Richardson is again incorrect. Srinivasan explicitly states that the “ $x+1$ ” is the

dynamic range in bits of the “output value”, meaning the extra bit is part of the final interpolated value contrary to Dr. Richardson’s testimony. Additionally, Dr. Richardson relies on disclosures from columns 17, 18, and 19 of Srinivasan, which relate to different embodiments than the disclosures from columns 20 and 21 of Srinivasan relied upon by Dr. Schonfeld. CDX11.54; RX-2024.0025-26 (Srinivasan) at 17:59-63, 18:1-7, 18:36-40, 18:60-62, 19:34-36; *see also* RDX-0005C.166; RX-2024.0026-27 (Srinivasan) at 20:20-32, 21:33-47. Moreover, the disclosures relied upon by Dr. Schonfeld make no reference to overflow or underflow. *See* RDX-0005C.166; RX-2024.0026-27 (Srinivasan) at 20:20-32, 21:33-47. Further, Dr. Richardson’s own testimony equated an increase in “dynamic range” to an increase in precision, and Srinivasan explicitly states that “the dynamic range (in bits) of the output value is equal to . . . $x+1$.” RX-2024.0027 (Srinivasan) at 21:46-47; Tr. (Richardson) at 1914:21-23 (“If we increase the number of possibilities, something called high dynamic range, we need more bits per pixel to represent those possibilities.”).

Third, Dr. Richardson emphasized that Figure 8 of Srinivasan includes a box titled “clamp output value” and outputs a value of 8 bits. Tr. (Richardson) at 1929:6-20. However, ***Figure 8 is not an embodiment that Dr. Schonfeld relied upon in his analysis.*** Instead, Dr. Schonfeld relies on Srinivasan disclosures related to the embodiment in Figure 14, which (1) does not clamp output values and (2) does not specify a particular output bit-depth. *See* RDX-0005C.166; RX-2024.0014 (Srinivasan) at Fig. 14, -.0026-27 at 20:20-32, 21:33-47.

4. The ALJ Should Reject Dr. Richardson’s Argument That A POSITA Would Not Be Able To Combine Walker And Srinivasan

Dr. Richardson’s argument that a POSITA would not be able to combine Walker and Srinivasan also fails. Dr. Richardson speculates that Srinivasan’s additional bits of precision for its interpolated predictions would create “a number of problems” that one would need to solve in

order to combine Srinivasan with Walker. Tr. (Richardson) at 1930:11-13. However, Dr. Richardson did not actually identify any of these alleged “problems” and contradicted himself on redirect when he discussed Figure 10 from the ’267 patent (which represents the prior art), and testified that “one could conceivably use Srinivasan to . . . implement” interpolation as part of prior art bi-prediction. Tr. (Richardson) at 2032:16-2033:25; *see also id.* at 2031:20-2032:6 (“P1 would be consistent with the output of Srinivasan.”); CDX11.6. Because these inconsistent statements cannot be reconciled, the ALJ should reject Dr. Richardson’s argument that a POSITA would not have a reasonable expectation of success in combining Walker with Srinivasan.

F. Staff is Incorrect That the ’267 Patent is Not Invalid Under Nokia’s and Staff’s Proposed Constructions of “Precision”

Staff incorrectly concluded in its post-hearing notice that the ’267 is valid under Nokia’s and Staff’s proposed constructions of “precision.” *See* Commission Investigative Staff’s Post-Hearing Notice at 3-5. Staff emphasized Dr. Richardson’s testimony that (1) Walker’s interpolation teachings do not generate anything other than 8-bit interpolated values and (2) one of “one of ordinary skill in the art would not apply the Srinivasan interpolation filter to the last stage of Walker” *Id.*

As an initial matter, Staff’s post-hearing notice did not address Respondents’ proposed construction of “precision”, so it appears Staff still believes that the ’267 patent is invalid under Respondents’ proposed construction. *Id.* As detailed in Respondents’ *Markman* brief, Respondents’ proposed construction of “precision” is supported by ample intrinsic evidence, whereas Nokia’s and Staff’s proposed constructions are not. *See* EDIS Doc. ID 861666 (Respondents’ *Markman* Brief) at 1-6. Critically, Respondents’ proposed construction of “precision” is expressly required by several of the ’267 patent’s independent claims, so the proper

construction of “precision” must—at the very least—include Respondents’ proposed construction. *Id.* at 4-5; JX-0007.027-29, cls. 6, 12, 18, 24, 30, 36.

Additionally, with respect to Walker’s interpolation teachings, Staff focused on the exemplary interpolation methods disclosed in Walker but did not address Walker’s disclosure that “other pixel interpolation methods could be used.” Tr. (Schonfeld) at 1387:8-1388:14; JX-0683.009 (Walker) at Fig. 8, -.021 at ¶¶ 111, 114; *see also* Tr. (Schonfeld) at 1471:3-1472:21. The evidence presented at the hearing showed that interpolation was within the knowledge of a POSITA at the time of the ’267 patent, and Nokia’s counsel acknowledged that prior art interpolation methods were capable of obtaining predictions at heightened precision. *See* Tr. at 42:8-18; *see also* CDX1.88-91. Staff’s notice also did not address Dr. Schonfeld’s theory that Walker’s weighted predictions meet Nokia’s and Staff’s proposed construction because of Walker’s variable weights. *See* Section IV.C.4.

Moreover, with respect to Srinivasan’s interpolation teachings, Staff dismisses Dr. Schonfeld’s testimony as “conclusory” but fails to mention Dr. Schonfeld’s detailed description of Srinivasan’s teachings and his conclusion that Srinivasan “allows for a lot of flexibility in terms of how high the precision should be at the very end of the interpolation filter.” Tr. (Schonfeld) at 1379:2-1382:25. Staff even neglects to mention her own questioning of Dr. Schonfeld, during which Dr. Schonfeld explained how Srinivasan’s interpolation filters obtain predictions with heightened precision. *See* Tr. (Schonfeld) at 1473:25-1476:19. Instead, Staff relies on Dr. Richardson’s misreading of Srinivasan to suggest that only Srinivasan’s input and output values must have the same precision. *See* Commission Investigative Staff’s Post-Hearing Notice at 5. As explained in this brief and by Dr. Schonfeld at the evidentiary hearing, this is an incorrect reading

of Srinivasan. *See* Sections IV.D.3, IV.E.3. As such, the '267 patent is invalid under all parties' proposed constructions of "precision."

G. There Are No Secondary Considerations of Non-Obviousness

Nokia presented no evidence of secondary considerations of non-obviousness for the '267 Patent. There is no evidence of commercial success, initial skepticism, unexpected results, failed attempts of others, industry recognition and praise, or copying of others tied to the '267 Patent. There is also no evidence that sales of the Accused Products or domestic industry products have a nexus or connection to the alleged invention of the '267 Patent. Lastly, adoption into the H.265 standard has no bearing on non-obviousness as Nokia characterized the alleged invention of the '267 Patent as a "minor fix" to bidirectional prediction. *See* Tr. (Schoenfeld) 1349:24-1350:20; Tr. (Richardson) 2004:17-2005:15 (confirming Nokia's characterization of the contribution as a minor fix); JX-0187.003; RDX-5C.113-14; JX-0181C at 237:3-9 ("Q: Do you still agree with that characterization that it's a minor fix? A: I think it's a small software change. ...").

V. THE REDESIGN PRODUCTS SHOULD BE ADJUDICATED

The Acer Redesign Products¹⁰ (RPX-ACER-004C; RPX-ACER-005C; RPX-ACER-006C) and the ASUS Redesign Products (RPX-ASUS-001C; RPX-ASUS-002C; RPX-ASUS-003C; RPX-ASUS-004C; RPX-ASUS-005C; RPX-ASUS-006C; RPX-ASUS-007C; RPX-ASUS-008C; RPX-ASUS-010C; RPX-ASUS-011C; RPX-ASUS-012C) (collectively the "Redesign Products") are ripe for adjudication by the ALJ because they meet each of *Milk* factors outlined in the Commission's four-factor test. *See Certain Human Milk Oligosaccharides and Methods of Producing the Same*, Inv. No. 337-TA-1120, Comm'n Op. (June 8, 2020).

¹⁰ RPX-ACER-004C, RPX-ACER-005C, and RPX-ACER-006C correspond to RPX-ACER-001C; RPX-ACER-002C; RPX-ACER-003C, respectively.

First, the Redesign Products are within the investigation scope. The Redesign Products are the same products (i.e., computer systems) accused of infringement and contain the same CPUs and/or GPUs accused of infringement. *See* RPX-ACER-004C; RPX-ACER-005C; RPX-ACER-006C; RPX-ASUS-001C; RPX-ASUS-002C; RPX-ASUS-003C; RPX-ASUS-004C; RPX-ASUS-005C; RPX-ASUS-006C; RPX-ASUS-007C; RPX-ASUS-008C; RPX-ASUS-010C; RPX-ASUS-011C; RPX-ASUS-012C. Second, the Redesigned Products have been imported and made available for inspection by the parties. *See id.*; *see also* RX-0204; RX-0206; RX-0207; RX-0208; Tr. at 1216:25-1217:2. Indeed, Complainants had the opportunity to, and in fact did, inspect and modify the Redesign Products. *See* Tr. at 1216:23-25; 1218:2-4. Third, the Redesign Products are sufficiently fixed in design, having been implemented in working computers and inspected and/or operated by Complainants. *See* RPX-ACER-004C; RPX-ACER-005C; RPX-ACER-006C; RPX-ASUS-001C; RPX-ASUS-002C; RPX-ASUS-003C; RPX-ASUS-004C; RPX-ASUS-005C; RPX-ASUS-006C; RPX-ASUS-007C; RPX-ASUS-008C; RPX-ASUS-010C; RPX-ASUS-011C; RPX-ASUS-012C; *see also* Tr. at 1216:23-25; 1218:2-4; JX-0034C (Wang) at 16:17-18:1; 18:13-19; 19:6-23:2; JX-0016C (Chu) at 101:22-102:15; 117:19-22. Moreover, source code for the Redesign Products has been produced by Respondents, as well as by third party suppliers including Intel, AMD, Nvidia, and Qualcomm. *See* JPX-0001SC; JPX-0003SC; JPX-0004SC; JPX-0005SC; JPX-0006SC; JPX-0007SC. Fourth, the Redesign Products were adequately disclosed during discovery. The relevant source code and Redesign Products were made available for inspection during discovery, the products were inspected multiple times, and Respondents have provided interrogatory responses identifying and describing the operation of the Redesign Products. *See* CX-6688C; CX-6689C; CX-6712C; *see also* Tr. at 1216:23-25; 1218:2-4.

Because the Redesign Products meet the four-factor test set forth by the Commission, they should be adjudicated—which is not disputed by either Complainants or Staff.

VI. DEFENSES

A. Public Interest

The record compels denial of Nokia’s requested remedial orders. An exclusion order would cause concrete, substantial, and far-reaching harm across numerous market segments, while conferring no corresponding benefit to Nokia, which neither sells any competing products nor maintains a U.S. presence tied to the technology-at-issue. At a minimum, any remedy must be narrowly tailored or delayed. But the severity and cascading nature of the harm, including striking U.S. consumers, the education system, and competitive conditions throughout the economy, can be adequately avoided only by denying the requested relief altogether.

1. Protection of the Public Interest Is Paramount

“[T]he public health and welfare and the assurance of competitive conditions in the U.S. economy must be the *overriding considerations* in the administration of [Section 337]. Therefore . . . the Commission must examine . . . the effect of issuing [any remedial] order on the public health and welfare before such order is used.” *Trade Reform Act of 1974*, Report of the Committee on Finance United States Senate Together with Additional Views on H.R. 10710, Nov. 26, 1974, at 197 (emphasis added); *see also* S. Rep. 93-1298 (1974) (“The Committee feels that the public interest must be paramount in the administration of the statute.”); H.R. Rep. No. 93-1644, 1974 WL 11697, at *7391 (1974). Before issuing any remedial order, the Commission must “consider[] the effect of such [an order] upon the public health and welfare, competition conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers.” 19 U.S.C. §§ 1337(d)(1), (f)(1). Where the public interest factors

weigh heavily against relief, the Commission may determine that no remedy should issue or tailor its relief. *See Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60 (Dec. 1979); *Certain Mobile Devices, Associated Software, and Components Thereof*, Inv. No. 337-TA-744, Comm’n Op. at 22 (May 18, 2012) (finding public interest warrants exemption from any exclusion order for the importation of parts and components used in the maintenance, service, repair, or replacement of respondent’s products previously sold in the U.S.); *see also Certain Integrated Circuits and Prods. Containing the Same*, Inv. No. 337-TA-1148, ID at 188–89, 193–94 (May 22, 2020) (finding no violation and recommending that, if the finding of no violation were reversed, any remedy should be delayed for twelve months to mitigate the consequent harm to the public).

This Investigation presents overriding public interest considerations with no countervailing benefit to Nokia. As Dr. Seth testified, the requested relief will have adverse effects on the public health and welfare, competitive conditions, and U.S. consumers. Any marginal interest in enforcing Nokia’s patents is far outweighed by the significant harm that an exclusion order would inflict on the public interest. Dr. Seth’s analysis, together with Professor Simcoe’s testimony on the economics of RAND and SEP licensing, and Dr. Phiroz’ testimony on the cascading harmful effect of the exclusion order on the U.S. economy establish that the public interest strongly weights against any exclusion order in this Investigation. For at least the reasons set forth in detail below, and described in the preceding sections, the Commission should deny any relief.

2. Public Interest Concerning RAND-Encumbered SEPs

This Investigation presents unusually strong public interest considerations because Nokia seeks exclusionary relief on patents it contends are standard-essential and subject to RAND obligations. Nokia seeks to use the ITC’s exclusion remedy to extract royalties above what the RAND commitment permits; conduct that the USTR, the FTC, and Nokia itself have repeatedly

identified as harmful to competitive conditions and consumers. Tr. (Simcoe) at 1619:19-1620:19; USTR Disapproval Letter at 2; 1240 FTC Commissioner Statement.

Granting injunctive relief based on patents subject to RAND obligations would undermine the foundational framework that makes standards-setting possible. When a patent holder commits to RAND licensing as a condition of inclusion in a standard, it forgoes the ability to use the threat of exclusion to extract supra-RAND terms from implementers. Allowing Nokia to use the ITC's exclusion remedy to extract supra-RAND royalties from willing licensees would hollow out that commitment, reducing investment in standard-compliant products, pushing prices higher, narrowing consumer choice, and chilling the technology ecosystem that surrounds these standards. *See Certain UMTS and LTE Cellular Communication Modules and Products Containing the Same*, Inv. No. 337-TA-1240, FTC Chair Khan and Commissioner Slaughter's Written Submission on the Public Interest (May 16, 2022) ("1240 FTC Commissioner Statement"); *Certain Wireless Commc'n Devices, Portable Music & Data Processing Devices, Computers & Components Thereof*, Inv. No. 337-TA-745, FTC Public Interest Statement (June 6, 2012). Members of the FTC have been explicit on this point: "[w]hen a District Court can make a complainant whole...even a limited exclusion order is not in the public interest." 1240 FTC Commissioner Statement at 6.

It is undisputed that Nokia made RAND licensing commitments for the H.264 and H.265 standards, confirming that it agreed to offer a license on its SEPs on FRAND terms. Nokia itself recognizes and have argued that issuing an exclusion order related to RAND-encumbered patents is "antithetical" to the RAND commitment and would "allow holders of essential patents to repudiate RAND commitments at will when it suits their purpose to utilize the leverage of an ITC action." 868 Nokia PI Statement at 2; *Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof*, Inv. No. 337-TA-752, Nokia Public Interest Statement at 1

(June 8, 2012) (“752 Nokia PI Statement”). Even Nokia recognizes that issuing exclusion orders in such circumstances risks “irreparably undermin[ing] the enforceability of RAND commitments,” which carries with it deleterious public interest effects including reduced investment in standard compliant products, increased consumer product costs, and reduced consumer choice. Nokia PI Statement at 1. Nokia cannot reverse course now to suits its own financial interests. If RAND-obligated SEP holders can weaponize ITC exclusion orders against willing licensees, the threat to future standards adoption becomes unavoidable: implementers investing in standard-compatible products can no longer rely on the RAND assurance that makes that investment rational. Tr. (Simcoe) at 1619:19-1620:19. The result is gaming of the standards process, reduced R&D investment, and fewer choices for consumers. *Id.*

Nokia’s history of conduct demonstrates the opportunistic nature of its current demands. At the time H.264 was being developed, Nokia was the largest handset manufacturer, with roughly 33% of the market. Tr. (Lopez) 1659:17-1660:5; RDX-9C.7. Nokia actively participated in the H.264 MPEG LA pool rate negotiations and was present at those negotiations advocating for a rate of 50 cents per unit with lower prices at different volume tiers. Tr. (Simcoe) 1607:25-1608:8; RDX-0008C.23. Between 2006 and 2013, Nokia made numerous public statements about the harmful nature of patent hold-up and that exclusion orders should not be available against willing licensees. Tr. (Simcoe) 1591:13-1592:15; RDX-0008C.10-11. In 2013, when Nokia sold its handset business and effectively became a nonpracticing entity, it reversed its course—seeking a royalty rate that far exceeds what Nokia had advocated for the entire codec stack ten years earlier. Tr. (Lopez) 1660:10-1661:4; RDX-9C.7. The Commission and the FTC have long distinguished between product-driven, *ex ante* licensing that encourages innovation and benefits consumers and revenue-driven, *ex post* licensing that encourages lock-in to extract above market royalties. *See*

Certain Multimedia Display & Navigation Devices & Systems, Components thereof & Prod. Containing Same, Inv. No-337-TA-694, Comm’n Op. at 25 (July 21, 2011). Nokia’s conduct here is the latter, and it is not the kind of activities that Section 337 was designed to reward.

As discussed above, Acer and ASUS are willing licensees. *See also* Tr. (Cheng) 1251:12-1256:3. As Professor Simcoe and Dr. Seth testified, their agreement to accept a RAND determination through the UK High Court should be treated as willingness to license, and the Commission should withhold any exclusion order while that rate-setting proceeds, then allow the parties a genuine opportunity to transact on the adjudicated terms. Tr. (Simcoe) 1645:19-1646:4; Tr. (Seth) 1824:17-1825:7.

Issuing an exclusion order before a RAND rate is adjudicated would penalize Respondents for a refusal that has never occurred and reward Nokia for abandoning RAND negotiations it was contractually obligated to complete in good faith. The UK High Court interim license and the pending rate-setting proceeding provide Nokia with a complete, adequate remedy. The Commission should not allow Nokia to add the threat of an exclusion order on top of it. An exclusion order premised on RAND-encumbered SEPs, issued before a RAND rate determination, against willing licensees, in favor of a foreign NPE with no competing products, cannot be squared with the public interest. *See Certain Inclined-Field Acceleration Tubes*, Inv. No. 337-TA-67, Comm’n Op. at 21-22 (Dec. 1980) (relief denied due to overriding public interest).

3. The Requested Remedial Orders Would Harm the Public Interest and Provide No Benefit to Nokia

It is not always in the public interest to enforce intellectual property rights through an exclusion order. *See Rosemount, Inc. v. U.S. Int’l Trade Comm’n*, 910 F.2d 819, 822 (Fed. Cir. 1990). This Investigation is a compelling example. The record shows significant and concrete harm on one side of the ledger, and nothing of substance on the other: Nokia would gain no cognizable

benefit from an exclusion order because it makes no competing products and has no U.S. operations tied to the technology-at-issue.

a) The Purpose of Section 337 Is to Protect U.S. Industries

Section 337 was designed to protect U.S. industries. H. Rep. No. 100-40, pt. 1 at 157. Congress's stated goal was to shield "U.S. productive capacity and jobs" from unfair trade practices. Statement of the Honorable Lloyd Bentsen, Hrg. on IP Protection in Int'l Trade (May 14, 1986). Any remedy must generate an "appreciable benefit" to U.S. industry and cannot exist solely to protect "holders of U.S. intellectual property rights who have no contact with the United States other than owning such intellectual property." *Id.* If the adverse impact of an exclusion order exceeds the benefit to the patent holder, relief should not issue. The evidence in this Investigation presents precisely that situation: Respondents, its suppliers, and its U.S. consumers, are the entities that the Congress sought to protect, while Nokia is the kind of non-manufacturing patent holder warned against.

Respondents are precisely the enterprises Congress intended Section 337 to protect. Acer America Corporation—headquartered in California with additional locations in Texas—
[REDACTED]. Tr. (Seth) 1788:9-1789:5; RDX-11C.3. ASUS Computer International [REDACTED]
[REDACTED]. Tr. (Seth) 1789:6-21; RDX-11C.4. By contrast, Nokia is a Finnish company [REDACTED]
[REDACTED]. Tr. (Seth) 1787:23-1788:8; RDX-11C.2. Nokia neither makes any competitive products nor has a U.S. manufacturing presence for the technology-at-issue.

b) Nokia Is a Non-Practicing Entity that Monetizes Patents but Offers No U.S. Products

As stated above, Nokia stands to gain nothing cognizable from an exclusion order. It does not manufacture or sell personal computers, notebooks, Chromebooks, or any products that compete with the Accused Products. Tr. (Akemann) 956:10-15. The Commission and the FTC have long distinguished between the kind of licensing that transfers technology and build industry and the kind that simply taxes existing implementers after the fact. The former serves consumers and promotes innovation while the latter does the opposite. *See Certain Multimedia Display & Navigation Devices & Systems, Components Thereof & Prods. Containing Same*, Inv. No. 337-TA-694, Comm’n Op. at 25 (July 21, 2011). Nokia’s program fits the latter description precisely.

c) Unavailability of Alternative Products

Irrespective of whether the Asserted Patents are SEPs, the unavailability of alternative products to fill any shortage left by exclusion of Respondents’ products would negatively impact the public interest. Tr (Seth) 1802:10-1803:12; RDX-11C.13. Nokia cannot demonstrate that adequate substitute products exist to fill the void an exclusion order would create. *Id.* Under 19 C.F.R. § 210.08(b), a complainant seeking exclusion must “identify like or directly competitive articles that complaints, its licensees, or third parties make which could replace the subject articles if they were to be excluded” and confirm the capacity to replace them “in a commercially reasonable time.” Nokia satisfies neither requirement.

As Dr. Seth testified, there is a lack of readily available alternatives for the Acer and ASUS Accused Products. Tr (Seth) 1802:10-1803:12, 1809:2-1818:12; RDX-11C.13-26. Three primary reasons for the lack of alternatives are as the following: (1) Acer and ASUS offer notebooks with high performance at lower prices, and there are significant switching costs when attempting to switch between operating systems, making it especially difficult for the education segment; (2)

other OEMs lack the ability to ramp up production immediately; and (3) supply chain bottlenecks and component shortages limit the ability of alternative notebooks to fill the gap. Tr (Seth) 1802:10-1803:12, 1809:2-1818:12; RDX-11C.13-26. These conclusions were directly supported by Respondents' supply chain expert Dr. Phiroz, whose testimony explained in detail that a structural supply chain realignment cannot occur in response to an exclusion order. Tr (Phiroz) 1511:22-1522:15 RDX10.3-14.

Nearly all of Acer and ASUS's PCs sold in the United States are accused in this investigation. Tr (Seth) 1800:9-1801:4. In 2024, notebooks accounted for nearly 80 percent of PC computers sold in the U.S. *Id.* If an exclusion order issues, consumers who are currently using Acer and ASUS products and want to purchase more will have no access to any Acer or ASUS products. They would then face only two choices: switch away from Chromebooks to a different OEM running a different operating system, or switch from Acer and ASUS Chromebooks to a different Chromebook brand. Either path involves substantial switching costs. Tr. (Seth) 1802:10-1812:5; RDX-11C.21. As Dr. Seth further testified, academic research indicates operating systems carry the highest switching costs of almost any industry in the United States. *Id.* The loss to consumers would be [REDACTED] if the supply from Acer and ASUS were not filled and [REDACTED] if the lost supply is met, but the prices are raised. Tr. (Seth) at 1817:25-1822:18, 1823:7-18; RDX-0011C.27-.29, .31; RX-1105; JX-0031C (Cruts Tr.) at 35:21-36:1; RX-0820; RX-0821; RX-1137; RX-0656; RX-0713; RX-1931C; RX-0742; RX-1106; RX-1931C; RX-1019; RX-0843; RX-0846; RX-0643; RX-1549; RX-0705; RX-1154; RX-1086; RX-1139; RX-1157; RX-0853; RX-0861; CX-6591C; RX-1106; RX-1111; RX-0771; RX-0712; RX-0840. Moreover, direct lost sales in the U.S. would be [REDACTED] in PC sales. *Id.*

[REDACTED]

An exclusion order would have a significant detrimental effect on the education segment.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. These market shares, derived from IDC data, represent the most detailed and reliable data available and were confirmed as such. As Dr. Seth testified, educational institutions are typically locked in for periods of three, five, or seven years to particular vendors, do not frequently switch brands, and face high switching costs when they do. Tr. (Seth) 1809:19-1812:5; RDX-11C.21. Acer and ASUS products are used in some of the largest public-school districts in the country, including LA Unified and New York public schools. *Id.*

If Acer and ASUS products are excluded, other OEMs cannot adequately fill the supply gap. Tr. (Seth) 1813:15-1817:1; RDX-11C.24. In the education segment, other OEMs would need to increase their manufacturing by [REDACTED] in key price bands to meet lost supply—capacity that the evidence shows they do not have. Tr. (Seth) 1812:6-1813:1; RDX-11C.22. Nokia's attempt to show that existing supply chains could absorb any shortfall also falls short. As Dr. Phiroz testified, Acer and ASUS's excluded volume still represents millions of units, and Nokia's reliance on the percentage figures obscures both the absolute supply gap and the structural obstacles that prevent rapid reallocation. Tr. (Phiroz) 1531:2-11.

As Dr. Phiroz testified, a supply chain is an interconnected set of businesses, and any disruption within it will inevitably cause reverberations throughout the chain—resulting in

shipping delays, shortages, and changes in consumer behavioral patterns. Tr. (Phiroz) 1511:4-1512:18. At least five specific and independent reasons exist as to why the supply chain cannot be quickly restructured to absorb the exclusion of Acer and ASUS.

First, components are not interchangeable. Acer and ASUS purchase key components—including CPUs, GPUs, memory, and storage—which they consign to their ODMs. Tr. (Phiroz) 1511:4-1512:18. There is no basis to assume those components would be redistributed to competitors, and even within a brand, certain components are brand-specific and cannot be rerouted to other OEMs. *Id.* Nokia’s suggestion that components could simply be rerouted fundamentally misunderstands how these supply chains operate. As Dr. Phiroz testified, component interchangeability is severely limited and competing OEMs would have no right to take possession of Acer and ASUS’s consigned components. *Id.*

Second, semiconductor lead times are approximately four months. Tr. (Phiroz) 1521:21-1522:15; RDX-10.4. There is no ability for ODMs to adjust production within the first 30 days following an exclusion order because the components needed for expanded production would not yet be available. *Id.*

Third, existing ODM capacity is not spare capacity available for absorption. While Nokia’s expert Mr. Dastmalchi claimed that ODMs operating below 100 percent capacity have spare capacity that could fill the Acer and ASUS void, Dr. Phiroz correctly testified this is simply wrong: ODMs deliberately maintain buffer capacity to handle fluctuations in demand and unforeseen disruptions, not to absorb a competitor’s entire product line. Tr (Phiroz) 1521:1-20; RDX-10.13. This reserve is a flexibility tool, not idle production awaiting reassignment.

Fourth, shifting production between OEMs requires significant engineering and retooling. In response to Nokia’s expert’s, Mr. Dastmalchi, testimony that ODMs can shift production in

[REDACTED]

approximately eight minutes, Dr. Phiroz correctly testified that different supply chain networks are designed for specific geographic coverage; distribution networks are optimized to specific supply chains; inventory is allocated for specific retailers; and existing forecasting and replenishment protocols are calibrated to current business flows. Tr (Phiroz) 1521:21-1522:15; RDX-10.14.

Fifth, Nokia's inventory analysis was methodologically flawed. Mr. Dastmalchi calculated competitor inventory using Yahoo Finance data that aggregates all products across each company's portfolio—including Dell's servers and racks, HP's printers and monitors, and Apple's watches and phones. Tr (Phiroz) 1514:21-1515:16; RDX-10.6. He failed to isolate PC-specific inventory, making his inventory calculations unreliable and overstated for any estimate of available substitute supply. *Id.*

Here, the initial determination is expected to be issued around August 2026, followed by Commission review, a two-month presidential veto window, and a final determination no earlier than approximately February 2027. Any OEM that begins adjusting its supply chain before the final order risks absorbing costs if the order is reversed or modified. Tr (Phiroz) 1540:22-1541:16-1541:13. And each phase of adjustment, including component ordering, ODM retooling, distribution reconfiguration carries its own lead times. *Id.* There is thus no realistic scenario in which the supply chain fully adjusts before the exclusion order causes material harm to U.S. consumers and institutions. *Id.*

[REDACTED]

[REDACTED]

[REDACTED]. Tr (Seth) 1789:6-21; RDX-11C.4. [REDACTED]

[REDACTED]

[REDACTED]. Tr (Seth) 1813:14-1814:2; RDX-11C.23. Replacing the Accused Products in the gaming segment would require other OEMs to increase manufacturing by [REDACTED] in the highest price band and [REDACTED] in the lowest price band, increases the evidence shows are not feasible. *Id.* While Nokia challenged the price band groupings, Dr. Seth explained that price band segmentation is a standard, widely used methodology reflected in IDC data, industry reports, and vendor websites, and that adjusting the bands would not materially change the results. Tr (Seth) 1813:2-13; RDX-11C.22.

For the reasons discussed above, an exclusion order of Respondents Accused Products would harm competitive conditions in the U.S. economy, U.S. consumers, and the public health and welfare.

4. Public Interest Considerations Warrant No Remedy, or at Minimum, Tailored Exemptions and Delay

For the reasons set forth above, and as testified by Dr. Seth and Professor Simcoe, the requested remedies against the Accused Products would significantly harm the public interest. In contrast, the requested remedies would provide no cognizable benefit to Nokia. No remedy should therefore issue. *See Certain Inclined-Field Acceleration Tubes*, Inv. No. 337-TA-67, USITC Pub. 1119, Comm'n Op. at 11 (Dec. 1980). At a minimum, relief must be tailored and delayed. *See Certain Integrated Circuits and Prods. Containing the Same*, Inv. No. 337-TA-1148, Initial Deter. at 188–94.

As Dr. Seth testified, at least three specific tailorings should apply if the Commission determines that some remedy should issue: (1) delay the exclusion order until the UK rate-setting proceeding is complete and Respondents have had the opportunity to take a license at the adjudicated RAND rate; (2) a carve-out for the education segment, given the disproportionate harm an exclusion order would cause to K-12 schools and students; and (3) a warranty and repair

exemption so that Acer and ASUS can meet their warranty obligations and consumers can exercise their right to repair. Tr. (Seth) 1824:16-1825:14; RDX-11C.32.

No remedy should issue in this Investigation. Respondents have committed to take a license on adjudicated RAND terms, and the UK High Court has already issued an interim license and it is expected that it will determine a final rate in approximately October 2026. Nokia has a full remedy available through that proceeding. An exclusion order is not a tool to extract a higher royalty than a court would award; it is reserved for cases where the ordinary remedial framework cannot make the complainant whole. That is not this case here. As Professor Simcoe testified, exclusionary relief is appropriate against an implementer that refuses to accept adjudicated RAND terms—not against one, like Acer and ASUS, that has agreed to be bound by the outcome. Tr. (Simcoe) 1592:16-1595:16. Using the ITC to force a settlement before that adjudication is complete would allow Nokia to do through trade leverage what it cannot do through litigation: extract above-RAND royalties from willing licensees.

B. Breach of RAND Licensing Obligations

1. Nokia’s Breach of its RAND Commitment—Already Confirmed by the UK Court—Should Nullify or Delay Any Exclusionary Relief

As explained at the Hearing by Respondents’ experts Dr. Simcoe and Dr. Lopez, Nokia’s conduct has violated its contractual obligations to the ITU and standard-setting participants, which require Nokia to offer and enter into worldwide licenses to its portfolio of H.264- and H.265-essential patents on RAND terms.

The ALJ no doubt recalls many terms used in conjunction with “RAND”: “RAND offers,” “RAND licenses,” “RAND rates,” “RAND benchmarks,” and “RAND ranges,” just to name a few. To be clear, the ALJ’s analysis of Respondents’ RAND defenses here requires consideration of the proper economic framework: evaluating whether the parties’ *offers* made during the course of

negotiations are compliant with the economic principles of RAND. *See, e.g.*, Tr. (Lopez) at 1658:18-23. This is an issue distinct from determining the overall “RAND rate” for a license between the parties. As Dr. Lopez testified, negotiation conduct and offers must be analyzed from the perspective of the offering party. *See* RDX-0009C.3. In this Investigation, therefore, Nokia’s pending request for exclusionary relief undergirds Nokia’s offers, whereas a motivation and commitment to enter a neutrally determined RAND license forms the backdrop of Respondents’ offers. The issue of a final RAND rate determination (i.e., what a RAND rate *should* and *will* be) is not before the Commission in this Investigation and will instead be adjudicated and resolved by the UK Court later this year. RX-2418.0085. Instead, the ALJ and Commission must examine each party’s offer through the lens of the offering party to determine whether the offer is rooted in a reasonable economic basis that comports with RAND principles. *See* RDX-0009C.3.

Within that context, Respondents have been, and remain, willing licensees. As explained by Dr. Lopez, in the parties’ negotiations, both Acer and ASUS relied on the most *reasonable* and *accessible* RAND benchmark (*e.g.*, patent pools) available to them to craft their offers. Tr. (Lopez) at 1669:8-1670:16. And, unlike Nokia—which has sought to leverage exclusionary relief to extract rates greater than the value of its portfolio—Respondents have committed to enter into a license agreement at RAND rates determine by a neutral court (the UK High Court of Justice). The UK Court will evaluate the evidence before it and resolve the ultimate issue. *See* RX-2418.0085.

The irrefutable evidence elicited establishes that Nokia’s offers at its “program rates” do not comport with RAND and have been infected with (and inflated by) “hold-up value.” Nokia’s program rates have no economic tie to the actual value of its video coding portfolios—and, indeed, no sound economic foundation. Not even Dr. Akemann, Nokia’s RAND expert, made a determination that Nokia’s executed license agreements are RAND. *See* Tr. (Akemann) at 926:9-

20. Nokia's actions, moreover, are not consistent with those of a willing RAND licensor. Tr. (Lopez) at 1667:14-20. It presented [REDACTED]

[REDACTED] Nokia sought injunctive relief in the U.S. and abroad (and obtained injunctive relief abroad) to attempt to force the Respondents to cave to its demands. *Id.* at 767:16-18. *See* RDX-0001C.10. When ordered by the UK Court to provide an interim license to Respondents, Nokia refused and disputed the jurisdiction of the UK Court to determine a RAND license between Nokia and Respondents. Tr. (Gray) at 767:3-6. Then, in an astonishing act ofchutzpah, Nokia agreed to let the UK Court set the RAND terms for an interim and final license with Paramount and Warner Brothers Discovery for the very same video coding standards at issue, but continues to maintain that the same UK Court lacks jurisdiction and is not competent to set the RAND rate in the dispute with Respondents. Adam Houldsworth, IAM MEDIA (Feb. 26, 2026), *Nokia agrees to UK-set interim and final licenses with Paramount, Warner Bros*, <https://www.iam-media.com/article/nokia-agrees-uk-set-interim-and-final-licences-paramount-warner-bros> (last accessed Mar. 30, 2026). But whether Nokia "consents" or not, the UK Court will set a RAND rate, and there is no dispute that a license with terms decided by the UK court will resolve the instant Investigation (*see, e.g.*, JX-0184.001 (obligating Nokia to offer a RAND license on worldwide terms)). As the parties have continued negotiations even throughout the pendency of this Investigation—towards concluding a license—Nokia's only motivation for continuing hold-up becomes clear: extract supra-RAND value from its H.264 and H.265 portfolios.

2. Nokia's Licensing Declarations to the ITU Create Enforceable RAND Obligations

It is well-settled that declaration statements committing to RAND obligations create an enforceable contract between Nokia and the ITU-T. Courts recognize that a commitment between an SEP holder and a SSO (e.g., the ITU) to license SEPs on RAND terms is binding on the SEP holder under contract law and under the equitable doctrine of promissory estoppel. *See, e.g., Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 999, 1002 (W.D. Wash. Feb. 27, 2012) (“The court agrees with Microsoft that through Motorola’s letters to both the IEEE and ITU, Motorola has entered into binding contractual commitments to license its essential patents on RAND terms.”); *Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-cv-178, 2011 WL 7324582 at *15 (W.D. Wis. June 7, 2011) (holding that Apple had stated a claim for promissory estoppel based on Motorola’s “promises to the standards setting organization through its commitments that it would license any essential patents under fair, reasonable and non-discriminatory terms.”).

Nokia does not seriously dispute that it is contractually bound by its ITU obligations—indeed, the UK Court, a court of competent jurisdiction, explicitly made this finding. RX-2418.0024 (“[I]t is undoubtedly the case . . . that the actual License Declaration signed by the SEP Owner is . . . the contract between the ITU-T and the SEP Owner . . .”). What Nokia disputes is whether its conduct breached this contractual obligation. *Id.* at 0010-11. But the UK Court addressed that issue as well, finding “Nokia in breach of their ITU-T Commitment” because it failed to offer a RAND license that is capable of acceptance by Respondents. *Id.* at 0085. As a result of this breach, the UK Court declared interim license terms in advance of a full rate-setting trial. *Id.* at 0091-92. The UK Court included the encoding claims of the Asserted Patents in the interim license terms, finding that Respondents have an “arguable case” that the encoding claims are “necessarily and unavoidably infringed” to encode a video bitstream in compliance with the Asserted Standards. *Id.* Dr. Simcoe testified that for encoding claims, which Nokia contends are

not essential to the H.264 and H.265 standards and not subject to RAND terms, the Common Patent Policy states patent owners should submit multiple disclosure forms stating their intention to not license encoding claims on RAND terms. Tr. (Simcoe) at 1613:9-1614:7. Nokia, however, did not submit multiple declaration forms for its encoder and decoder claims. *Id.* at 1614:8-11.

The interim license ordered by the UK Court provided protections to Nokia's economic interests. RX-2418.0091. Because Respondents committed to the UK Court that they will pay the interim license rate if offered by Nokia, the interim license with Nokia serves as a security until the final rate can be set during the rate-setting trial set to commence in late June. Pending an adjustment once the final RAND rate is set, the UK court set the royalty rate in the interim license as the midpoint between Nokia's program rate and Respondents' offered rates. *Id.* The rate is to be paid as two lump sums: (1) a non-refundable rate, which represents the amount of royalty rate that is not in dispute; and (2) a refundable rate which represents the difference between the refundable rate and the midpoint-derived rate. *Id.* The refundable lump sum will be credited against the sum that the UK court decides is RAND at the final trial. *Id.* If the UK court determines the final RAND rate to be higher than the interim rate, Respondents are obliged (and have agreed) to pay to Nokia that difference. *Id.*

[REDACTED] Nokia has thus far refused to offer Respondents the interim license and has similarly indicated it [REDACTED]. [REDACTED]; RX-2418.0086. These refusals to offer court-ordered relief are transparent attempts to maintain the threat of exclusionary and injunctive relief over Respondents, which is not consistent with actions of a willing licensor who is subject to RAND obligations. RX-2418.0076.

As Respondents' expert Dr. Timothy Simcoe testified, the ITU-T, ISO/IEC, JVT, and JCT-VC each promulgated similar disclosure policies requiring essential patent disclosure. Tr. (Simcoe) at 1609:16-23. To ensure that the Asserted Standards' adoption and implementation is not hindered by patent rights, these SSOs seek commitments from patent owners to license their essential patents on FRAND terms. *Id.* at 1609:24-1610:6. JX-0410, JX-0415. In line with the ITU Common Patent Policy, an unwilling licensor's technology is excluded from consideration to be incorporated in a Standard. Tr. (Simcoe) at 1610:16-21.

Dr. Simcoe testified that, as early as the development of the H.264 Standard, the ITU patent policy in effect during that time required any party participating in ITU standards development to submit a "Patent Statement and Licensing Declaration" form ("Licensing Declaration Form") for patents or patent applications the party held and believed potentially covered an ITU standard. *See* JX-0410; Tr. (Simcoe) at 1616:8-1617:1. The Licensing Declaration Form required choosing between one of three licensing options: the party was (1) willing to grant licenses "free of charge" subject to reciprocity; (2) willing to grant licenses "on reasonable terms and conditions"; or (3) unwilling to grant licenses under either option (1) or (2). Tr. (Simcoe) at 1609:24-1610:21; JX-0410 at Appx. 1, p. 7. The ITU-T/ITU-R/ISO/IEC Common Patent Policy retains this same concept in declaration forms. JX-0415.

Nokia signed onto these RAND commitments by filing a series of Licensing Declaration Forms for the Asserted Patents directed to the Asserted Standards, committing to provide licenses "to an unrestricted number of applicants on a worldwide, non-discriminatory basis and on reasonable terms and conditions to make, use and sell implementations of the above [H.26X standard]." Tr. (Simcoe) at 1616:8-1617:11; Tr. (Levin) 2051:24-2052:12; CX-7008. Notably, Nokia did not submit these declarations for the Asserted Standards (as applicable) until *after* each

Asserted Standard was approved and locked-in (May 30, 2003 for H.264 and April 13, 2013 for H.265). RDX-0008C.31. By electing to license essential patents on RAND terms, Nokia ensured that its patents would not be automatically discounted from inclusion in the Asserted Standards. *See* Tr. (Simcoe) at 1609:16-1610:21. And because it submitted Licensing Declaration Forms opting to license its SEPs on FRAND terms, Nokia is a party to an enforceable agreement with the ITU-T. *Microsoft Corp. v. Motorola, Inc.*, 854 F. Supp. 2d 993, 999, 1002 (W.D. Wash. Feb. 27, 2012) (“The court agrees with Microsoft that through Motorola’s letters to both the IEEE and ITU, Motorola has entered into binding contractual commitments to license its essential patents on RAND terms.”), RX-2418 at ¶ 250.

3. Nokia, Not Respondents, is Bound by Nokia’s Agreement with the ITU

Both Nokia and Staff seemingly have taken the position that *Respondents*—who are third party beneficiaries of Nokia’s ITU contractual commitments—had some type of obligation to offer to pay Nokia amounts that Nokia deems to be “RAND,” and that Respondents’ failure to make offers that *Nokia* deems sufficient should subject Respondents to exclusionary relief. But *Nokia*, not Respondents, is bound by RAND commitments—irrevocable commitments that cannot be discharged by Respondents’ behavior even accepting Nokia’s and Staff’s erroneous position that Respondent’s offers were not RAND-compliant. This position undermines both public policy and economic principles of RAND commitments and was rejected by Judge Robart in his seminal *Microsoft-Motorola* opinion over 15 years ago. *Microsoft*, 864 F. Supp. 2d at 1034–35 (rejecting Motorola’s theory that Microsoft repudiated entitlement to a RAND license: “Motorola’s contracts with the IEEE and the ITU do not condition Motorola’s RAND obligations on the implementer first applying for a license and then negotiating in good faith.”).

4. Nokia Breached RAND Obligations

Nokia has breached its obligations to the ITU by failing to offer Respondents a license to its H.264 and H.265 portfolios *on RAND terms and conditions* that is capable of acceptance. To encourage adoption of a given standard, SSOs, including the ITU, promulgate intellectual property policies that require SSO participants to disclose patents potentially essential to implement a standard. JX-0410, JX-0415.

As explained above, courts recognize that a commitment between an SEP holder and an SSO to license SEPs on RAND terms constitutes a binding contract, which manifests itself upon filing licensing declaration statements. RX-2418 at ¶ 112. The importance of the underlying promise is exhibited within the declaration that the SEP owner is prepared to grant a license to those patents. *Id.* at ¶¶ 113-14. Being prepared to grant a license, when properly construed in context with the Common Patent Policy, requires that the RAND offer must be capable of acceptance. *Id.* at ¶ 125. The UK Court described RAND as a “process” that requires an SEP owner to negotiate RAND terms in good faith. *Id.* at ¶ 126.

Entities, such as Respondents, who sell products supporting standardized technology are third-party beneficiaries entitled to enforce SEP holders’ RAND obligations to an SSO to license its SEPs to third-party beneficiaries. This is specifically so with respect to the ITU and the H.264 and H.265 Standards. *See Microsoft*, 854 F. Supp. 2d at 999; *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012) (affirming Microsoft was a third-party beneficiary to Motorola’s contractual obligations to the ITU and IEEE). Accordingly, Respondents are entitled to enforce Nokia’s RAND obligations under contract law. Nokia does not deny Respondents are third-party beneficiaries entitled to enforce its RAND obligations.

Nokia's irrevocable and binding commitment to license its SEPs on RAND terms renders its choice to leverage the exclusionary power of this tribunal a coercive attempt to obtain supra-RAND rates. Tr. (Simcoe) at 1618:7-21. On the other hand, Respondents are, and have been, willing licensors who have negotiated in good faith with Nokia. This willingness can be no more clearly demonstrated than by (1) Respondents' seeking an adjudicated RAND rate from a judicial tribunal; (2) submitting to that jurisdiction unequivocal commitments to be bound by its interim and finally adjudicated terms; and (2) [REDACTED]

[REDACTED] .” *Id.* at 700:9-12, 700:17-22, 704:18-705:1 Therefore, the ALJ should deny Nokia's request for an exclusion order.

5. Nokia Breached its Duty to Negotiate in Good Faith with Respondents

The negotiations between Nokia and Respondents are most significantly centered around whether the royalty rates that Respondents should pay to Nokia are RAND. Negotiations over royalty rates are fundamental in any licensing discussion. Where Nokia's negotiations with Respondents differ from the norm is that the negotiations are underpinned by Nokia's refusal to justify its program rates, refusal to provide a full picture of existing licenses for Respondents to examine comparability, and, most notably, Nokia's filing of the instant action and related foreign actions seeking injunctive relief against Respondents. These factors, among others, demonstrate the asymmetric bargaining positions between Respondents and Nokia—namely an asymmetry in available information and in the threat of an injunction.

To ensure fair terms, each Respondent agreed to a binding rate-setting proceeding in the United Kingdom—a true third-party neutral—that can determine both a RAND royalty rate and the licensing terms that the parties would be subject to. RAND royalties are, by definition,

[REDACTED]

sufficient for Nokia to be made whole and to compensate Nokia for the use of its portfolio. RX-2418. Despite the declaration of interim license by the UK Court, which, as discussed herein, fully protects Nokia's economic interests, Nokia exhibits behavior of an unwilling licensor engaging in patent hold-up. Nokia has not offered (and has represented that it will not offer) the interim license terms adjudicated by the UK Court. Nokia's refusal is unreasonable—both an interim and final license to Nokia's portfolio would, in effect, resolve the dispute between the parties. Respondents have consistently expressed that each would agree to be bound by the interim and final (F)RAND determination in the UK. By refusing to (1) offer the interim license as declared by the UK Court, a court of competent jurisdiction, and (2) be bound by the UK Court's decision, Nokia can only be said to be engaging in "holdup"—using this tribunal's exclusionary power to leverage supra-RAND rates. *See* Tr. (Simcoe) at 1590:24-1591:11. The negotiations between Nokia and Respondents [REDACTED]

[REDACTED]

[REDACTED]

Nokia advances a strawman argument—insinuating, wrongly, that Nokia's RAND obligations are somehow discharged if Respondents are deemed "unwilling licensees." Under its erroneous theory, Nokia attempts to shift the burden, arguing that Respondents should be subject to punitive remedies if they cannot prove themselves to be "willing" licensees. Nokia's position has no support in the law—Respondents bear no such burden. But, even if they did, the evidence establishes that Respondents are willing to license Nokia's video codec portfolio on RAND terms.

First, Nokia's position incorrectly attempts to shift the burden of its RAND commitments to Respondents. It is Nokia, not Respondents, that is bound by RAND commitments. *Microsoft*, 854 F. Supp. 2d at 999, 1002. Nokia's RAND commitments are irrevocable and cannot be

[REDACTED]

discharged by Respondents' behavior. *Id.* at 1034–35 (rejecting Motorola's theory that Microsoft repudiated entitlement to a RAND license: "Motorola's contracts with the IEEE and the ITU do not condition Motorola's RAND obligations on the implementer first applying for a license and then negotiating in good faith.").

Second, Respondents are and have been willing licensees. As explained in Section VI.B.4., Nokia, not Respondents, failed to negotiate in good faith, failed to offer RAND terms, and is an unwilling licensor on RAND terms. Moreover, even if the offers were RAND, rejecting a RAND offer does not make a prospective licensee an unwilling licensee. Tr. (Akemann) at 955:15-24. Throughout its negotiations with Respondents, [REDACTED]

[REDACTED]. But Nokia has [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Respondents, on the other hand, have grounded their counteroffers against [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Third, and most tellingly, Respondents both have committed to unconditionally license Nokia's video codec portfolios on whatever terms a truly neutral third party—the U.K. High Court—determines are RAND. *See Id.* at 1595:2-6. [REDACTED]

[REDACTED]

[REDACTED]. *Id.* at 704:18-705:1.

There is no greater indicator of a licensee's willingness to enter into an agreement than a [REDACTED]

Nokia, on the other hand, has chosen not to ask any court—not the ITC, the U.S. District Court, the German Local Division, the UK Court or the Unified Patent Court—to set a RAND rate. In fact, Nokia has actively fought Respondents' requests to have a neutral arbiter determine the terms of a RAND license, instead leveraging the threat and issuance of exclusionary and injunctive relief in this Court and around the globe to force Respondents to accept licenses under non-RAND terms. RX2418.0051-66 ("Jurisdiction" section).

Fourth, Nokia's "program rates" lack a sound economic foundation. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. Nokia has adduced no evidence for any economic basis of its program rates—[REDACTED]

6. Respondents' Offers and Conduct Are Consistent With Those of A Willing Licensee

As the UK Court determined, Nokia breached its ITU RAND commitment. RX-2418.0085. It also negotiated in a manner inconsistent with a willing licensor. Nokia offers only a Hobson's choice—either accept Nokia's program rate or be unfairly deemed an unwilling licensee and subjected to injunctions throughout the world. But Respondents have always been, and remain,

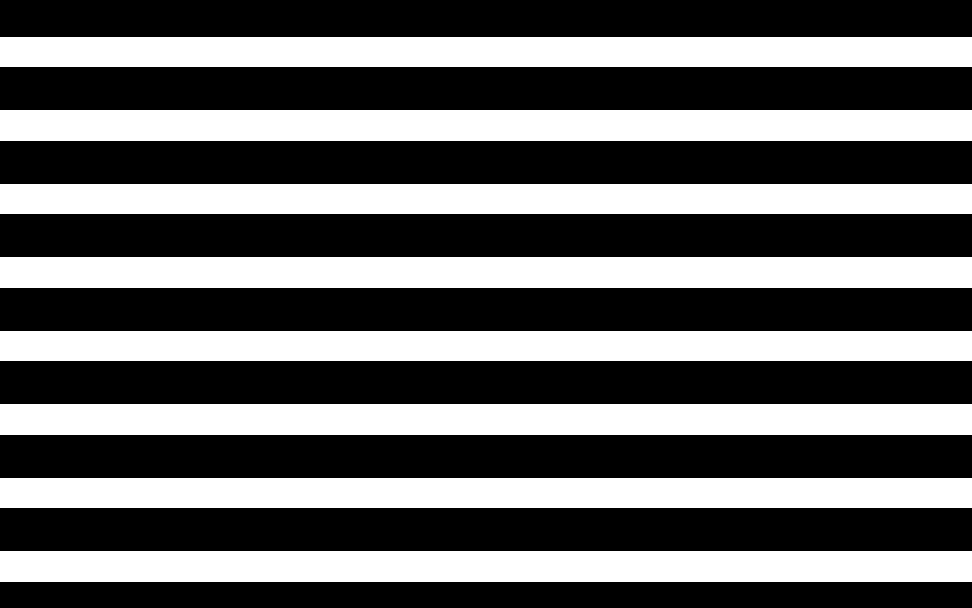
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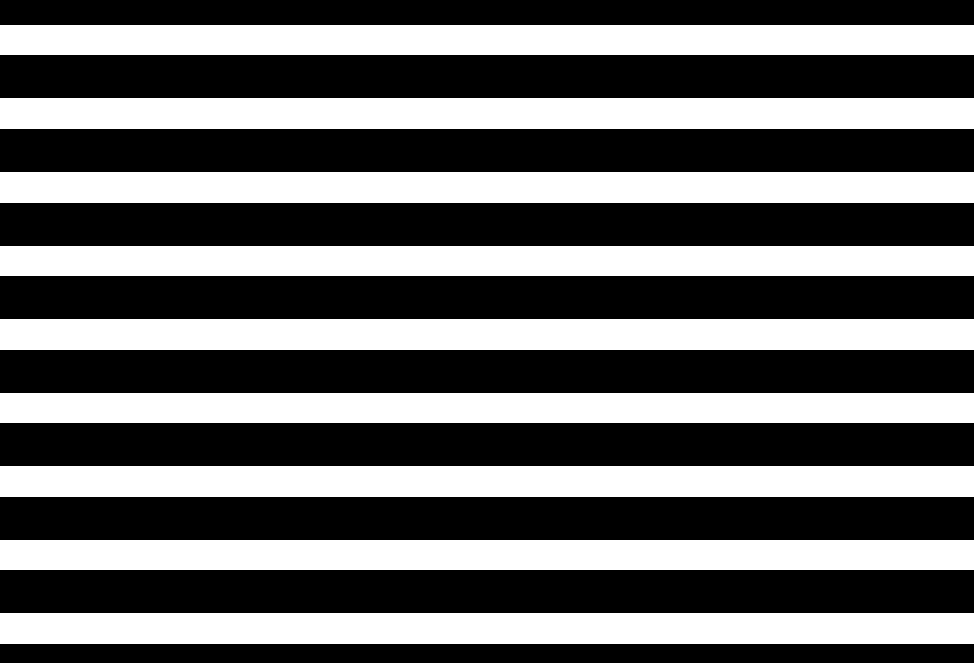
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[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

7. It Was Reasonable For Respondents to [REDACTED] as A Benchmark for Their Offers

As Acer's Ms. Shang and ASUS's Mr. Cheng testified, both Acer's and ASUS's offers

[REDACTED].
Tr. (Shang) at 987:19-988:3, (Cheng) 1254:14-18. Indeed, both Professor Simcoe and Dr. Lopez and opined that the MPEG LA (now VIA LA) and Access Advance patent pools (collectively, the "Video Coding Patent Pools") provide a good benchmark for a RAND rate. *Id.* at (Simcoe) 1606:20-1607:21, (Lopez) 1669:8:19. As such, Respondents' [REDACTED] [REDACTED] is necessarily reasonable. Specifically, the Video Coding Patent Pools: (1) reflect rates set by the market as a result of *ex ante* competition; (2) offer transparency of rates and licensees; (3) demonstrate broad market acceptance of terms. *Id.* at (Lopez) 1671:25-1672:10; RDX-0009C.20.

Dr. Lopez testified that MPEG LA (now VIA LA) and Access Advance patent pools are reasonable benchmarks on [REDACTED] in view of the asymmetry in information about the so-called [REDACTED]. Tr. (Lopez) at 1692:2-24. The patent pools reflect market rates set by the market as a result of *ex ante* competition and offer transparency of rates and licensees. RDX-0009C.0020.

MPEG LA's and Access Advance's pools were both formed when the Asserted Standards actively competed with alternatives (*e.g.*, H.264 faced competition from, at least, Windows MP9/VC-1 and WebM; H.265 faced competition from, at least, VP9 and AV1). *Id.* In addition, both MPEG LA's and Access Advance's pools rates were announced before the market adopted the respective standards. *Id.* After the market adopted the Asserted Standards, these pools were the

[REDACTED]

dominant source of SEPs for the Asserted Standards. *Id.* Importantly, because these pools were formed while each Asserted Standard was competing for market dominance, the rates posed by each pool are indicative of an *ex ante* value of the standard. *Id.* [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The patent pools also reflect market acceptance as they include approximately 91% and 87% of the patents declared essential to the respective H.264 and H.265 standards. RDX-0009C.0020. With regards to H.264, MPEG LA's H.264 pool rates, which Nokia originally cooperated to set, are between \$0.10 and \$0.20 per unit, and cover upwards of 91% of SEPs to the H.264 standard. *Id.* The H.265 patent pools contain approximately 87% of H.265 patents, largely held in Access Advance's and MPEG LA's H.265 pools, containing 77% and 10% of the H.265 patents respectively *Id.* at 0022. [REDACTED]

[REDACTED] For example, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].

A benchmark rate for Nokia's portfolio for each of H.264 and H.265 can be calculated by multiplying the per unit pool rate and Nokia's proportional share of the pool. *Id.* at 0026. Summing Nokia's benchmark rates for each portfolio provides a combined benchmark rate for Nokia's video coding portfolios. As a result, a reasonable effective benchmark rate for both portfolios would be

[REDACTED]

As discussed above, Respondents each [REDACTED] their counteroffers to Nokia. And, as ratified by the testimony of Professor Simcoe and Dr. Lopez, doing so was not only reasonable in view of the asymmetry of information available to it regarding Nokia's licenses, but the only reliable benchmark on which they *could* base their counteroffers. Evaluating Respondents' offers in this context unequivocally establishes that they were consistent with RAND principles and the actions of willing licensees.

In contrast, the rates that Nokia offered to Respondents during their respective negotiations far exceeded that pool benchmark rates. In fact, as illustrated below, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

8. Nokia's and Staff's Criticisms of the Use of Patent Pools as a Benchmark is Misplaced

Nokia, relying on the opinions of economic expert, Dr. Akemann, levies several criticisms of reliance on patent pools as a benchmark for Respondents' counteroffers. His dubious claims can be condensed to a few critiques: pool rates are artificially low and seldomly enforced; pools attract weak patents; and pools don't represent all patents in the standards. RDX-0009C.0021. Moreover, Dr. Akemann did not opine as to whether MPEG LA's H.264 or H.265 pool licenses charge a RAND rate. Tr. (Akemann) 951:15-21. Dr. Akemann's criticisms are not grounded in sound economic principle or fact.

Nokia's basic premise, as adopted by Staff, is fundamentally flawed. As Professor Simcoe testified "the general consensus has emerged [amongst economists] that a good benchmark for a FRAND rate is for a given set of SEPs is the licensing fee and related terms and conditions that

those SEPs could have commanded during the development of the standard, when they were likely competing with other technologies for inclusion in the standard, *ex ante*. The competition and lack of any possible technology lock-in render these early rates reflective of market valuations and are free of holdup costs.” Tr. (Simcoe) at 1589:11-19.

Nokia’s and Staff’s criticism that pools are made up of implementers that have an incentive to keep lower rates is easily dispelled. As an initial matter, the pools are not made up solely of implementors, but rather of “fairly diverse set” of members. Tr. (Lopez) at 1673:16-1674:20. As Dr. Lopez noted, “if you look at the H.264 pool, you have Dolby, and Dolby is not an implementer, at least in this space. We have IP Bridge, a patent assertion entity, and we have heard about Fraunhofer. These are not companies that have an incentive to minimize royalties.” *Id.* at 1674:4-8. Dr. Lopez further notes that “There is no credible claim that they just want to minimize royalties. Dolby, for example, regularly asserts its patents that are in these pools in order to make sure that it is monetizing its portfolio.” *Id.* at 1674:17-20.

Dr. Akemann’s criticism as it relates to the economic incentives of implementers that have contributed to patent pools also is misplaced. As Dr. Lopez notes, “even for implementers, their incentives are going to change. You may have an implementer who has a small market share but a large share of patents, and so their incentives may differ in terms of other pool members.” *Id.* at 1674:9-12. Incentives to encourage adoption represent a balance with rewarding patent holders, tending to show the value of the Asserted Standard. As adoption of the Asserted Standards grew, pool rates have *effectively increased* through rises in royalty caps. *Id.* at 1672:22-1673:7.

Dr. Akemann’s and Staff’s criticism that pools attract weak or insignificant patents is also without merit. Neither Dr. Akemann (nor Nokia) has tied this criticism with any fact in the record. Dr. Acton testified that Fraunhofer “contributed heavily to H.264 and H.265.” *Id.* at 1566:25. And

[REDACTED]

importantly, Dr. Acton's analysis comparing the Asserted Standards with Nokia's patents established that pools cover a broader range of each Asserted Standard. RDX-0006C.0016-21. Moreover, Dr. Akemann did not perform or rely on any technical analysis of Nokia's H.264 or H.265 portfolios. Tr. (Akemann) at 932:18-24. Therefore, Nokia's claims of pools containing weak patents are unfounded.

9. Nokia and its Licensees Have Relied Upon Pool As Benchmarks During Their Negotiations

Nokia's contention that pool rates are not reliable benchmarks is belied by its own public recommendations to potential licensees. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]. Again, the patent pools that each of these [REDACTED] provided public information related to rates. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Indeed, in addition to encouraging others to do so, [REDACTED]

[REDACTED] Tr. (Lopez) at 1693:25-1694:5. As acknowledged by Dr. Lopez, this calculation is not necessarily a final FRAND rate but demonstrates that it is reasonable for a party to rely on patent pools in a negotiation. *Id.*

10. Nokia's "Program Rates" Have No Economic Basis and are Not RAND

As discussed above, it is Nokia, not Respondents, that is bound by RAND commitments. So even if Respondents' offers were not deemed to be consistent with RAND principles, Nokia's RAND commitments cannot be discharged by Respondents' behavior. *Microsoft*, 864 F. Supp. 2d at 1034–35 (rejecting Motorola's theory that Microsoft repudiated entitlement to a RAND license: "Motorola's contracts with the IEEE and the ITU do not condition Motorola's RAND obligations on the implementer first applying for a license and then negotiating in good faith."). As the U.K. court instructively found, Nokia is in breach of its RAND commitments—it has not offered Respondents licenses on RAND terms that it can accept. RX-2416.0085.

Instead, [REDACTED]

[REDACTED] Nokia contends its video codec portfolios have an established, market-accepted [REDACTED]

[REDACTED] program rate [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

None of Nokia's so-called program rates have any objective, economic foundation. [REDACTED]

[REDACTED]

[REDACTED]

11. Nokia's "Comparable Licenses" Reflect *Ex-Post* Hold-Up Value

The initial support for its program rates is unexplained and Nokia cannot demonstrate that its licenses reflect the value of Nokia's H.264 and/or H.265 patents. The evidence presented at the hearing demonstrates that Nokia's program rates, and thus its offers to Respondents, reflect ex post value. Specifically the following considerations indicate that Nokia's program rate do not reflect the ex ante value of its portfolios: (1) Nokia's change in ex ante position to its current program rate; (2) Nokia's lack in transparency in the market, never announcing its new program rates to the public; (3) Nokia's strategic targeting of "minnows" to build up licensing program; (4) Nokia can provide no economic foundation for its rates; (5) [REDACTED]

[REDACTED]

[REDACTED] and (6) Nokia leverages existing licenses and injunction threats.

Instead, the evidence establishes that, where there was any significant deal value at issue for its licensees: (1) Nokia has used litigation coercion and hold-up to force those licensees to ultimately capitulate to its demands; and (2) [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

As noted above, after a standard is set, manufacturers invest in designing compatible products and become “locked-in” to the SSO-chosen technologies. *See* Tr. (Lopez) at 1664:7-12. The legal and economic consensus is royalty rates for SEPs should not include *ex-post* value (which may include hold-up after the standard is widely adopted). Tr. (Simcoe) at 1590:15-23. Rather, a RAND royalty rate should be based on the *ex-ante* incremental value of the claimed technologies at the time the relevant standard was set. Tr. (Simcoe) 1587:6-13; *Ericsson Inc. v. D-Link*, 773 F.3d 1201, 1232-33 (Fed. Cir. 2014) (“When dealing with SEPs, there are two special apportionment issues that arise. First, the patented feature must be apportioned from all the unpatented features reflected in the standard. Second, the patentee’s royalty must be premised on the value of the patented feature, not any value added by the standard’s adoption of the patented technology.”); *Garretson v. Clark*, 111 U.S. 120, 121 (1884) (a patentee “must in every case give evidence tending to separate or apportion ... the patented feature and the unpatented features ...”); *LaserDynamics, Inc. v. Quanta Computer, Inc.*, 694 F.3d 51, 77 (Fed. Cir. 2012) (“The notion that license fees that are tainted by the coercive environment of patent litigation are unsuitable to prove a reasonable royalty is a logical extension of *Georgia-Pacific*, the premise of which assumes a voluntary agreement will be reached between a willing licensor and a willing licensee, with validity and infringement of the patent not being disputed.”); *Microsoft Corp. v. Motorola, Inc.*, 904 F. Supp. 2d 1109, 1122 (W.D. Wash. 2012) (“[The] *ex ante* interpretation of a RAND royalty rate has been endorsed by numerous publications and the Federal Trade Commission.”).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Despite Dr. Akemann’s testimony to the contrary, *sophisticated companies can be subject to holdup*. Tr. (Lopez) at 1694:20-1695:16; Tr. (Akemann) at 942:9-15. The fundamental difference between minnows and whales is their ability to fight litigation battles. *Id.* at 1695:2-4. Using its developed licensing playbook, [REDACTED]

[REDACTED] Many of the “sophisticated” licensees, though, repeatedly noted that [REDACTED]

[REDACTED]

[REDACTED]

As Dr. Lopez testified, these sophisticated companies are more able to handle risk of litigation. But even these companies can be coerced into accepting a license at a supra-RAND rate.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

The image consists of a single, uniform black rectangle covering the entire area. There are no visible features, text, or patterns.

[illegible]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

In sum, the evidence establishes (1) Nokia's licenses are not indicative of the inherent value of its SEPs; (2) patent pools are good (and certainly reasonable) competitive RAND benchmarks; and (3) [REDACTED] Entering an Exclusion Order will result in forcing Respondents to ultimately pay *supra*-RAND rates. Conversely, Nokia can demonstrate no harm if an Exclusion Order is not granted. The UK Court will determine an actual RAND rate in advance of the Commission's Target Date that the Respondents are, and have been, willing to pay.

C. Implied Waiver and Unenforceability Based on Nokia's Breach of Its Disclosure Duties

The facts regarding Respondents' implied waiver/unenforceability defense are simple and undisputed by Nokia. First, Nokia participated in and contributed to the standardization activities of the ITU, JVT, and JCT-VC for both the H.264 and H.265 standards and was therefore bound by the patent policies of these organizations. Second, Nokia submitted statements to the ITU committing to license any H.264- or H.265-essential patents on RAND terms. JX-179C, JX-184, JX-185. Finally, *none* of Asserted Patents was identified to the ITU, JVT, or JCT-VC prior to the finalization and adoption of the standards. Tr. (Levin) 2068:17-2069:2; RDX-0008C.31.

What Nokia and Respondents *do* dispute is principally a legal issue—*i.e.*, the scope of Nokia's obligations under the relevant patent policies—and whether Nokia complied with those obligations. As early as 1999 and at all times relevant to the Asserted Patents, the ITU's Patent Policy required that participants in standard setting processes must disclose relevant patents as

early as possible “in good faith and on a best effort basis,” while stopping short of requiring full-blown patent searches. JX-0410. Respondents’ expert Dr. Timothy Simcoe testified that such disclosure policies serve to empower SSOs to be fully informed when deciding on what technology to include in a standard, including whether a contributor’s licensing commitments (or lack thereof) might hinder the widespread adoption of the standard. Tr. (Simcoe) 1610:25-1611:25. For example, in some instances, if SEP owners refuse to commit to license technologies, the SSO will exclude that technology from the standard. Dr. Simcoe explained that such patent disclosure obligations and licensing commitments are distinct and complementary pillars of informed standards development—and in the context of the relevant Patent Policy here, they are rooted in participants disclosing patents and patent applications “in good faith and on a best effort basis.” JX-0410.003; JX-0411.009; Tr. (Simcoe) 1609:16-1613:8.

More specifically, the ITU/ISO/IEC Common Patent Policy provides forms to help secure these disclosure and licensing commitments. The ITU allows SSO participants to submit the “General Patent Statement and Licensing Declaration Form,” allowing SSO participants to extend a FRAND licensing commitment for patents that the participant may own. JX-0410, JX-0415, JX-0184. Importantly, the Guidelines note that this general statement and declaration does not serve as a full replacement for individual patent and application identification. JX-0410 at Section 2.5, p. 4, JX-0415 at Section II.1, p. 6. Identified patents and applications can be listed on ISO/IEC/ITU-T Patent Statement and Licensing Declaration Forms, which allow the SSO participant to also declare its intentions as to whether it will license the technology. *See* CX-7008. In similar fashion to the ISO/IEC/ITU-T declaration forms, the JVT Terms of Reference provide for collecting IPR information from SSO participants, meant to supplement the information provided by ISO/IEC/ITU-T declaration forms. JX-0411.12.

As noted above, Respondents do not dispute that Nokia submitted multiple statements to the ITU, purportedly committing to license its patents essential to the H.264 and/or H.265 standards on RAND terms.¹¹ And Nokia does not, because it cannot, dispute that it did not disclose any of the Asserted Patents to the ITU, JVT, or JCT-VC until *after* these standards were finalized and adopted. Tr. (Levin) 2068:17-2069:2.

To excuse its lack of disclosure, Nokia presented the testimony of former ITU employee Arthur Levin, who opined that “since Nokia was willing to license on RAND terms, they did not have to identify specific patents” to the ITU. Tr (Levin) 2054:9-11. Mr. Levin even went so far as to opine that Nokia had “no duty whatsoever” to disclose specific patents to the ITU, “at any time,” simply because it had committed to license its essential patents on RAND terms. Tr. (Levin) 2069:5-10. But as demonstrated at the Hearing and explained more fully below, Mr. Levin’s and Nokia’s narrow view of the scope of the disclosure obligations here is directly contradicted by the Federal Circuit’s two-decade-old decision in *Qualcomm Inc. v. Broadcom Corp.*, 548 F.3d 1004 (2008), where the court addressed the very same question presented here.

In that case, Qualcomm had asserted two patents against Broadcom, alleging infringement by Broadcom’s H.264-compliant devices. During the district court litigation, Qualcomm initially denied participating in H.264-related standard setting activities before the ITU and JVT—but ultimately acknowledged that it had done so, and had not disclosed the asserted patents to either the ITU or JVT. The district found a breach of the duty of disclosure and found the patents to be unenforceable based on the doctrine of implied waiver.

¹¹ As explained elsewhere in this Brief, Respondents do dispute that Nokia has complied with its RAND licensing promises and obligations.

On appeal, the Federal Circuit affirmed the breach of the duty of disclosure. The court first explained that whether Qualcomm had a duty to disclose the asserted patents involved two questions: (1) whether the relevant patent policies imposed any disclosure obligations on participants; and (2) if the policies are ambiguous, whether the participants understood the policies as imposing such obligations. *Id.* at 1012. The Federal Circuit held that not only did the JVT IPR policy incorporate a best-efforts standard for patent disclosure, but that “Qualcomm has disclosure obligations under the rules of the JVT parent organizations” (the ITU/IEC/ISO). *Id.* at 1014. The Federal Circuit further stated that even if the written IPR policies had any ambiguity, its “conclusion as to the disclosure obligations of JVT participants would nonetheless be the same . . . because the language of the JVT IPR policies coupled with the district court’s unassailable findings and conclusions as to the JVT participants’ understanding of the policies further establishes that the policies imposed disclosure duties on participants.” *Id.* at 1015-16.

Then, after determining that Qualcomm had a duty to use “best efforts” to disclose patents to the JVT and ITU, the Federal Circuit determined that Qualcomm failed to meet that duty— noting that Qualcomm “did not present evidence of any efforts, much less best efforts, to disclose patents associated with the standardization proposal (of their own or anyone else’s) to the JVT prior to the release of the H.264 standard.” *Id.* at 1014. The Federal Circuit affirmed in substance the district court’s unenforceability finding for implied waiver, although it narrowed the scope of unenforceability to products compliant with the H.264 standard at issue. *Id.* at 1024-26.

Qualcomm, which is still good law, stands for two basic propositions that are directly on point in this Investigation. First, participants in ITU and JVT standard-setting activities—like Nokia—had a clear duty to use “best efforts” to disclose patents to these organizations prior to the adoption of the relevant standards. 548 F.3d at 1013-14. Second, standard-setting participants who

breach those obligations—like Nokia—impliedly waive their rights to assert any such undisclosed patents against users of these standards. *Id.* at 1020-26.

Nokia argued in its Pre-Hearing Brief that Qualcomm is inapposite because “Nokia’s conduct was markedly different from that of Qualcomm” (CPHB at 219), and Mr. Levin echoed those arguments during his testimony. But any differences in conduct are relevant only to Nokia’s *compliance* with the relevant duty to disclose, not *the existence and scope* of such a duty. Mr. Levin acknowledged, as he must, that (1) Nokia and Qualcomm were both bound by the same ITU/JVT IPR policies; (2) both Nokia and Qualcomm submitted statements to the ITU agreeing to license their essential patents on RAND terms; and (3) neither Nokia or Qualcomm disclosed the specific patents at issue until after adoption of the relevant standards. Tr. (Levin) 2071:20-2076:20. There is no question that the same “best efforts” disclosure policy addressed by the Federal Circuit in *Qualcomm* applies with equal force to Nokia.

Mr. Levin also attempted to distinguish the binding nature and impact of the *Qualcomm* opinion by claiming that the Federal Circuit “did not say that you have to identify specific patents or individual patents.” *Id.* (Levin) at 2075:25-2076:1; *see also* 2076:15-16 (“it says identify patents. It doesn’t say identify specific patents.”), 2077:17-18 (“the language is patent. It’s not specific patents.”). This skewed interpretation is flatly contradicted by plain language of the Federal Circuit’s opinion, which was addressing whether Qualcomm had breached its obligations by failing to disclose *two particular asserted patents* to the ITU and JVT. *Qualcomm*, 548 F.3d at 1011 (“Did Qualcomm breach its disclosure duty by failing to disclose the ’104 and ’767 Patents”); 1027 (“[W]e agree with the district court that Qualcomm had a duty to disclose the asserted patents to the JVT [and] that it breached its disclosure duty...”)

Nokia is also expected to rely on the Initial Determinations in the -1379 and -1380 Investigations to support its arguments. Those rulings are of course not binding—as they concerned investigations involving a different respondent, Amazon—and the ALJ here should give no weight to the analysis in those IDs. First, the Commission determined the review the -1380 ID in its entirety¹² and specifically asked the parties to identify any evidence “whether Nokia complied with its patent disclosure obligations regarding the setting of the H.264 and H.265 standards with respect to the patents asserted in this investigation.” Inv. No. 337-TA-1380, Notice of Review at Question 8, 90 Fed. Reg. 11183-86 (Mar. 4, 2025). Second, the Commission was never given an opportunity to review the -1379 ID, as Nokia and Amazon settled both investigations shortly after the -1380 Notice of Review issued. Moreover, the analysis in those IDs has little relevance to the facts and arguments addressed by Respondents here. For example, in the -1379 ID, the ALJ found Amazon’s reliance on *Qualcomm* was “misplaced” because Qualcomm had engaged in “intentional concealment” and other conduct different than that of Nokia. -1379 ID at 110. As explained above, Respondents rely on the *Qualcomm* decision for its legal determination of the scope the ITU/JVT disclosure duty—*i.e.*, disclosure of patents on a “best efforts” basis—and have separately addressed Nokia’s compliance with those obligations through the testimony of Dr. Simcoe.

¹² To the extent the ALJ in -1380 made findings that the “JVT participants did not understand the disclosure requirements as imposing a duty to identify specific patents” and that JVT participants “did not view the disclosure requirements as necessarily imposing a duty to disclose prior to adoption of the H.264 standard” (-1380 ID at 151-52), these are contrary to the binding law from the Federal Circuit in *Qualcomm*. 548 F.3d at 1015 (we agree with the district court that **JVT participants also had to disclose patents prior to final approval of a standard** under the rules of the JVT parent organizations); 1018 (“we agree with the district court that **the language requires JVT participants to disclose patents that “reasonably might be necessary” to practice the H.264 standard**) (emphasis added).

The Federal Circuit’s decision in *Qualcomm* comports with the testimony of Dr. Simcoe, who explained at length the differences between patent disclosure requirements and RAND licensing commitments and why they are *complements*, not substitutes or alternatives. Tr. (Simcoe) 1609:16-1613:8. Mr. Levin’s opinion, on the other hand, incorrectly render these complementary obligations an “either/or” proposition. Dr. Simcoe provided unrebutted¹³ testimony that when evaluated under the proper “best efforts” standard annunciated by the Federal Circuit in *Qualcomm*, Nokia’s disclosure-related conduct did not pass muster. As Dr. Simcoe explained, Nokia did not use “best efforts” to identify the Asserted Patents—[REDACTED] or procedures for disclosure, and in some cases waiting years to disclose them to the ITU. RDX-0008C.31; Tr. (Simcoe) 1616:8-1617:11. Nokia’s failure to disclose was more than just a matter of inadvertence or neglect—demonstrating an affirmative lack of “best efforts.”

Indeed, Nokia is no stranger to disclosing IPR to SSOs, having made numerous disclosures of other patents to not just the ITU, but SSOs such as ETSI, ATIS, and IEEE. *See Qualcomm*, 548 F.3d at 1015 n.4 (finding disclosures to other SSOs to be relevant and agreeing that there was “no doubt that Qualcomm knew how to disclose these patents when it chose to disclose them in the development of another standard”) Dr. Simcoe explained how Nokia’s business practices confirm that it was fully capable of identifying and disclosing relevant patents to SSOs, having submitted multiple disclosures to other SSOs such as ETSI during the timeframe surrounding H.264 development. Tr. (Simcoe) 1617:2-11. Moreover, by virtue of submitting many ISO/IEC/ITU-T Declaration Forms related to the standards at issue and identifying individual patents and patent

¹³ Mr. Levin’s only testimony regarding whether Nokia made “best efforts” to comply with its duty of disclosure came when he offered his opinion—contradicted by *Qualcomm*—that the duty of disclosure here did not concern “specific patent information.” Tr. (Levin) 2064:20-2065:17.

applications, Nokia had knowledge of its obligations to disclose, and yet, Nokia still waited to disclose the Asserted Patents until after both the H.264 and H.265 standards were locked in. *See e.g.*, CX-7008. Tellingly, no Nokia witness appeared at the Hearing to explain that Nokia was doing its best to disclose patents in accordance with its ITU obligations—instead, Nokia presented Mr. Levin’s testimony in an attempt to take a shortcut and claim it had no such obligations altogether.

The fact of the matter is that by failing to employ “best efforts” to disclose the Asserted Patents prior to the adoption of the H.264 and H.265 standards, Nokia breached its disclosure duties to the ITU and JVT. *Qualcomm*, 548 F.3d at 1014-15. Federal Circuit precedent on this point is clear—the lack of disclosure renders these patents unenforceable against the standards under the doctrine of implied waiver. *Id.* at 1020-26. Thus, there can be no violation of Section 337. *Certain UMTS and LTE Cellular Communication Modules and Products Containing the Same*, Inv. No. 337-TA-1240, Final ID at 266-284 (Apr. 1, 2022) (finding all asserted patents unenforceable based on failure to disclose them to ETSI prior to the adoption of the standards at issue even where patent owner agreed to license them on FRAND terms).

D. Nokia’s Claims Are Barred By Express and Implied Licenses

It is well-settled that licensed products are not subject to exclusion by the Commission. *See Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872 (Fed. Cir. 1995) (“[A]ll or part of the right to exclude may be waived by granting a license, which may be express or implied.”). For the reasons provided below, exclusionary relief should not issue against the Accused Products because the products are covered by an express or implied license by Nokia.

1. Express Interim License With Nokia Ordered By the UK Court

Exclusionary relief should not issue because the Accused Products *will be licensed* as Respondents have committed to accepting a license with Nokia on RAND terms. Respondents have consistently demonstrated their willingness to enter into a license with Nokia, as explained above. One of the ways in which Respondents indicated they are willing licensees was to initiate the rate setting action in the UK Court. [REDACTED]

[REDACTED]

[REDACTED]. The UK Court has since found Nokia in breach of its ITU obligations to grant Respondents a license to its alleged H.264 and H.265 on RAND terms and set the terms for an interim license between the parties. *See* RX-2416C at ¶¶ 420, 455. Despite the UK Court's findings, Nokia has not offered Respondents an interim license under the terms set by the court and continues to be in breach of its RAND obligations. *See* [REDACTED]

[REDACTED]

[REDACTED].

Where an SEP holder breaches its contractual obligation to offer a license on RAND terms, the court may supplant the patent holder's terms and impose a court-determined RAND license. *See Microsoft Corp. v. Motorola, Inc.*, 795 F.3d 1024, 1044-47 (9th Cir. 2015) (affirming district court's judicially determined RAND rates). Here, the UK Court has done just that when it set the terms for an interim license and determined Nokia breached its RAND obligations. Thus, there can be no patent infringement and no violation of Section 337 where the Accused Products will be subject to a license set by the UK Court. *See, e.g., Certain Video Displays & Prods.*, Inv. No. 337-TA-828, Order No. 9 at 13-22 (Aug. 1, 2012) (finding no patent infringement and no violation of

[REDACTED]

Section 337 where ongoing royalty order in separate district court proceeding constituted a license authorizing Respondent to use the asserted patents' claimed inventions).

The interim license with Nokia provides protections to Nokia's economic interests. The UK court set the royalty rate in the interim license as the midpoint between Nokia's program rate and Respondents' offered rates. RX-2416C at ¶ 455. The rate is to be paid as two lump sums: (1) a nonrefundable rate, which represents the amount of royalty rate that is not in dispute; and (2) a refundable rate which represents the difference between the refundable rate and the midpoint-derived rate. [REDACTED]

[REDACTED]. If the court determines the final RAND rate to be higher than the interim rate, Nokia will recover the difference from Respondents. Thus, exclusionary relief should not issue because Nokia's economic interests are already protected.

2. [REDACTED] Expressly Licensed to Microsoft

Exclusionary relief should also not issue because Nokia's license to Microsoft [REDACTED]

[REDACTED] This renders [REDACTED] expressly licensed by Nokia, and no

infringement can be claimed. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3. Implied Licenses with Semiconductor Manufacturers

Nokia is further barred from asserting its infringement claims against Respondents based on an implied license to its encoding and decoding technology in the semiconductor industry. For

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] This is significant, given that Nokia's infringement accusations are based upon these third-party semiconductor manufacturers. [REDACTED]

[REDACTED] Nokia has created an implied license to the use of its technology in these chips and has exhausted its patent rights in downstream products that may incorporate these chips. *See, e.g., Quanta Comput., Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 638 (2008) (holding sale of chipsets exhausted patent owner's rights); *Wang Labs v. Mitsubishi Elecs.*, 103 F.3d 1571, 1582 (Fed. Cir. 1997) (affirming judgment finding implied license where patent holder consented to the use of its invention by SIMM manufacturer); *Hewlett-Packard v. Repeat-O-Type Stencil*, 123 F.3d 1445, 1451 (Fed. Cir. 1997) ("implied license ... [extends to] any uses of the product to which the parties might reasonably contemplate the product will be put."). The implied license is evident where these chips are purchased from the semiconductor manufacturers "off the shelf" for use in

downstream products. These products are licensed by Nokia's implied license and acquiescence to the semiconductor manufacturers. *See Quanta*, 553 U.S. at 638.

VII. CONCLUSION

Respondents respectfully request the ALJ to enter a finding of no violation.

Dated: March 31, 2026

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that true and correct copies of the foregoing document:

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PUBLIC RESPONDENTS' POST-HEARING BRIEF

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