UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SILICON LABORATORIES, INC.

Petitioner

v.

CRESTA TECHNOLOGY CORPORATION

Patent Owner

Case IPR2015-00626
Patent No. 7,265,792

PATENT OWNER'S OBSERVATION ON CROSS-EXAMINATION OF PETITIONER'S REPLY WITNESS, DR. DOUGLAS HOLBERG

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Patent Owner deposed Petitioner's reply witness, Dr. Douglas Holberg on March 4, 2016 (Ex. 2038). Patent Owner respectfully submits these observations. All emphasis is added unless otherwise noted.

I. Dr. Holberg's New Testimony Regarding the Obviousness of Combination of Thomson, Harris and Grumman

1. In Ex. 2038 at 5:20-6:2, Dr. Holberg testified about Ex. 1004 Thomson:

> Q. Let's take a look at Exhibit 1004 is Thompson. Thompson doesn't teach Finite Impulse Response Filters, right?
> A. Well, it's been awhile since I've read Thompson, let me review that quickly. (Short pause).
> A. No, I don't see Thompson referring to a Finite Impulse Response Filter.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Thomson teaches an adaptive filter and provides a reason to combine.

2. In Ex. 2038 at 35:18-36:1, Dr. Holberg testified about Ex. 1004 Thomson:

> Q. Thompson does not teach that there would be an interruption of the television signal during a contact switch from one television format to another?
> A. Thompson is silent on whether there would be or would not be, it doesn't discuss that.
> Q. It doesn't have that particular teaching?
> A. Yeah, it doesn't discuss whether there's interruption or not when you change one context to the other as you say.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Thomson teaches an adaptive filter and provides a reason to combine.

3. In Ex. 2038 at 6:3-14, Dr. Holberg testified about Ex. 1004 Thomson:

> Q. Regarding the receiver of Thompson, do you believe that there was a problem with that receiver relating to a delay from switching from one television format to another?

A. I don't know.
Q. You don't have an opinion one way or the other?
A. No.
Q. Thompson doesn't teach specifically that there was a problem between switching from one format to another, right?
A. I don't recall that

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Thomson teaches an adaptive filter and provides a reason to combine.

4. In Ex. 2038 at 4:20-5:12, Dr. Holberg testified about Ex. 1005 Harris:

Q. Take a look at Exhibit 1005 Harris. Harris doesn't teach television RF signals, correct?
A. I don't recall Harris teaching television signals, no.
Q. And so Harris doesn't teach processing more than one television signal format, right?
A. That's correct; I believe that's correct. (Short recess.)
Q. So Harris does not teach approximately more than one television signal format, right?
A. That's correct. Harris doesn't speak to television specifically, it's -- teaches wipe-in tuners, receivers. But I don't think it recalls -- it states televisions specifically. Can you hear me? I'll try to eject or is that the right term?
MR. FLEMING: Project.
A. Project. I don't want to eject.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a reason to combine.

5. In Ex. 2038 at 33:10-15, Dr. Holberg testified about Ex. 1005 Harris:

Q. So I think we're on the same page here, it's that Harris doesn't teach processing more than one cell phone signal format in a single system, that specific teaching is not in there, in other words?
A. I don't recall seeing that specific teaching, no.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris

teaches a reason to combine.

6. In Ex. 2038 at 7:24-8:3, Dr. Holberg testified that Ex. 1005 Harris's application is cell phones and at 33:10-15 testified:

> Q. So I think we're on the same page here, it's that Harris doesn't teach processing more than one cell phone signal format in a single system, that specific teaching is not in there, in other words?
> A. I don't recall seeing that specific teaching, no.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a single filter in lieu of multiple filters and a reason to combine.

7. In Ex. 2038 at 8:23-9:6, Dr. Holberg testified about Ex. 1005 Harris:

> Q. So the receiver depicted, for example, in figure one is for a single narrow band signal, right?
> A. It's says it's -- figure one is described as a high level block diagram of a single channel filter. It doesn't say narrow band.
> MR. SHUMAKER: I think you may have misread that.
> A. Figure one is a high level block diagram of a single channel receiver. Did I say that wrong?

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a reason to combine.

8. In Ex. 2038 at 9:10-22, Dr. Holberg testified that Ex. 1005 Harris teaches in Figure 1 a single channel receiver that tunes on a narrow band radio signal and at 10:23-11:11 testified when Harris process more than one narrow channel, there is a signal processor for each narrow channel:

> Q. Well, just focused here on figure six, the teaching here is when there are multiple channels, there are multiple DDF's, right?

> A. In that illustration, you are correct. Multiple channels are implemented with multiple DDF's.

This testimony is relevant to Petitioner's argument in Reply at 6-7 that Harris teaches a single filter in lieu of multiple filters and provides a reason to combine.

9. In Ex. 2038 at 12:4-23 Dr. Holberg agrees that Grumman is a single FIR filter and at 5:13-19, Dr. Holberg testified that Ex. 1008 Grumman:

> Q. That would be a problem. Take a look at Exhibit 1008 which is Grumman. Grumman doesn't teach television RF signals either, right?
> A. That is correct.
> Q. And so Grumman doesn't teach more than one television format signal, right?
> A. That is correct.

This testimony is relevant to Petitioner's argument in Reply at 6-8 that Grumman teaches an single filter in lieu of multiple filters and provides a reason to combine.

10. In Ex. 2038 at 15:16-16:4, Dr. Holberg testified that Ex. 1008 Grumman coefficients are for the same formatted signal:

> Q. I think I got it. It's a single signal but the underlying information might be varying?
> A. Yeah. I mean, it's -- if you look at figure 4a, it's showing what Yn looks like. I mean, it's -- it's -- that's the arrangement of the Yn values over time, and -- but as you can see the way the diagram shows, at any given point in time, Yn can be a one or a zero and that's just whatever is coming from is determining that.
> Q. Yeah. So that's the -- the information, I would say, on the signal maybe changing?
> A. Yeah, I believe that's a fair way to say it.
> Q. And the characteristics, the underlying structure of the signal is going to be just what it is?
> A. Right.

This testimony is relevant to Petitioner's argument that in Reply at 6-8 that Grumman teaches two sets of filter coefficients, one for each format, and provides a reason to combine.

11. In Ex. 2038 at 18:9-14, Dr. Holberg testified that Ex. 1008 Grumman coefficients are for the same formatted signal:

> Q. Okay. I'm not really asking about time. Even before that, fundamentally the coefficients in bank zero and bank one, they're both going to be operating on the same signal Yn, right?
> A. Well, when you -- they're both going to be operating on Yn.

This testimony is relevant to Petitioner's argument that in Reply at 7-10 and 11-12 that Grumman teaches two sets of filter coefficients, one for each format, and provides a reason to combine.

II. Dr. Holberg's New Testimony Regarding the Obviousness of Combination of Thomson, Harris and Zenith

1. In Ex. 2038 at 22:8-20, Dr. Holberg testified that Ex. 1011 Zenith:

> Q. Let me ask it slightly different. SYNC DET 20 is connected to the analog demodulator 16, right?
> A. It appears to be connected, yes.
> Q. And in figure two, SYNC DET 20 will detect the presence of the analog sychronization signal, right?
> A. It's the sync detector which is detecting the sync signal from the analog demodulator, yes.
> Q. And SYNC DET 20 is not connected to the digital demodulator 18, right?
> A. No, it is not.
> Q. So it doesn't detect the output of digital demodulator 18, correct?
> A. Correct.

This testimony is relevant to Petitioner's argument on Reply at 8-12 regarding

Zenith.

2. In Ex. 2038 at 22:23-24:4, Dr. Holberg testified that Ex. 1011 Zenith:

> Q. So sync detector 20 essentially has two stakes, one is the presence of the analog synchronization signal and one is the absence of the analog synchronization signal?
> A. Right. Well, I know I addressed the state of the output of microprocessor 22 in my deposition, in my -- I mean, my Declaration. I don't recall stating --it may not be important here, but let me just make sure. The sync detector has two states.
> Q. And those states would be either state one, presence of the analog synchronization signal or second stage, the absence of the analog synchronization signal, right?
> A. Yeah, I think there's clarity in the language in the patent. It says, "Analog demodulator 16 supplies a sync separator 20 of conventional design for separating sync signals in the demodulated analog signal. Sync separator 20 is connected to a microprocessor 22 that controls 2012 and the operation of switch 14." Specifically, in the presence of syncs, correspondent to -- corresponding to a demodulated analog-type signal, microprocessor 22 calls a switch 14 to switch its pole, 14A, terminal A, with *Rousy *Eye signal from 2012 to analog demodulator 16. In the absence of syncs corresponding to a demodulated analog-type signal, microprocessors causes switch 14 to connect it's pole 14A to Terminal D, so there's the presence as you mentioned in the absence of six coming out of the analog demodulator.
> Q. The presence or absence comes out of the analog demodulator and sync detector?
> A. Right.

This testimony is relevant to Petitioner's argument in Reply at 8-12 regarding

Zenith.

3. In Ex. 2038 at 24:11-26:21, Dr. Holberg testified that Ex. 1011 Zenith,

including:

Q. Now if switch 42 was instead connected to the D pole, sync detector 20 does not detect the presence of a digital demodulator signal, right?
A. That is correct.
Q. And when the switch 42 is in the D position, sync detector 20 won't detect the absence of a digital demodulator signal either, right?
A. When -- because the sync detector is not connected to the digital demodulator, when switch 42 is switched to Terminal D or Pole D as you called it, it can't detect anything because it's not connected to the digital demodulator.
Q. Okay. And you look -- there's an item on the left, figure two, on 12, the tuner. Do you see that?
A. I do.
Q. And when switch 42 is connected to the D Terminal, Tuner 12 is not connected to the analog demodulator, is it?
A. That is correct.

…

Q. So in that case there would be no digital demodulator signal and the output at the sync detector would still tell the microprocessor there was no analog signal, right?
A. Well, nothing has changed. It's the same state that you -- we just agreed on.
Q. So the sync detector wouldn't inform the microprocessor that there was any change?
A. Because -- yeah, there's nothing -- yeah, it's still -- you've unplugged the input, we're watching a digital TV channel, you unplug the input and barring any algorithm within the microprocessor that does some testing or something, it would just stay in that state. No TV.
Q. And so there's -- the microprocessor then wouldn't tell Switch 42 to switch terminals, there would be no signal to do that?
A. Well, not what's disclosed in this diagram.

This testimony is relevant to Petitioner's argument on Reply at 8-12 regarding

Zenith.

III. Dr. Holberg's New Testimony Regarding the a claim construction of "indicative of"

1. In Ex. 2038 at 27:22-28:9, Dr. Holberg testified:

> Q. So I understand. Under your claim construction, selects signal may or may not actually be indicative of the format, right?
> A. I say the select signal would nonetheless provide an indication of the format, i.e., a clue, evidence or hint that may or may not be -- that may or may not be indicative of the actual format.
> Q. Okay. And so I'm focusing on that last part here.
> A. Yeah.
> Q. The select signal may or may not be actually indicative of the format, right?
> A. Right.

This testimony is relevant to Petitioner's argument in Reply at 2 as to the scope of Petitioner's claim construction.

2. In Ex. 2038 at 29:21-30:2, Dr. Holberg testified:

> Q. So if, for example, there were subformats, different types of analog, analog A, analog B, analog C, if there's more than two, a single bit wouldn't do that?
> A. Right.
> A. If there are more than two of anything, a single bit can't distinguish more than two states.

This testimony is relevant to Petitioner's argument in Reply at 9 "When properly construed, the Zenith μP output signal provides an 'indication of' one of a plurality of TV formats."

3. In Ex. 2038 at 28:10-29:2, Dr. Holberg testified:

> Q. Now flip back to Page 15, on Paragraph 27?
> A. Again, I -- I read that sentence, I just want to make sure I mean the actual format is the point that's being made, it's an indication of a format which may not be indicative of the actual format.

Q. Okay. So I'm looking at Paragraph 27, you're talking about a sign or indication can take many forms, right?
A. Uh-huh.
Q. As far as on Page 14, goes onto Page 15. And then in the last sentence, you discuss a bit, and you say, "That's a classic example of a sign or indication of the TV format, when there are -- when the TV format is either one format or another."
A. Right.
Q. So if there are two options, then the bit could tell you?
A. Right.

This testimony is relevant to Petitioner's argument on Reply at 9 "When properly construed, the Zenith μP output signal provides an 'indication of' one of a plurality of TV formats."

IV. Dr. Holberg's New Testimony Regarding the a claim construction of "carrier signal":

In Ex. 2038 at 33:16-34:1, Dr. Holberg testified:

Q. Now you provided some testimony about the analog synchronization signal; do you recall that?
A. In the Declaration or testimony?
Q. In the Declaration?
A. The analog sync signal, yes.
Q. The analog sync signal is part of the television video information?
A. Yes.
Q. And so that analog sync signal is needed to display a TV picture to the viewer, right?
A. Yes.

This testimony is relevant to Petitioner's argument on Reply at 2 that a synchronization signal is a "carrier signal."

Dated: March 14, 2016

Respectfully submitted,

/s/ Michael Fleming

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CERTIFICATE OF SERVICE
BY ELECTRONIC MAIL

Pursuant to 37 C.F.R. § 42.6, the undersigned certifies that on March 14, 2016, a copy of the foregoing document **PATENT OWNER'S OBSERVATION ON CROSS-EXAMINATION OF PETITIONER'S REPLY WITNESS, DR. DOUGLAS HOLBERG** was served by electronic mail, as agreed to by the parties, upon the following:

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