UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

NINTENDO CO., LTD, and

NINTENDO OF AMERICA INC.,

Petitioners,

v.

AMERICAN GNC CORPORATION,

Patent Owner.

_____

IPR2024-00667

(Patent 6,508,122 B1)

IPR2024-00668

(Patent 6,671,648 B2)

_____

DEPOSITION OF

HIRAM McCALL

WOODLAND HILLS, CALIFORNIA

FRIDAY, MARCH 14, 2025

Reported by: Aileen Neitzert, CSR No. 5318

Job No.: 575114

DEPOSITION OF HIRAM McCALL, taken on behalf of the Petitioners, at 6320 Canoga Avenue, 15th Floor, Woodland Hills, California, beginning at 1:03 p.m., on Friday, March 14, 2025, before Aileen Neitzert, Certified Shorthand Reporter No. 5318.

APPEARANCES:

FOR THE PETITIONERS:

COOLEY LLP
By: PATRICK LAUPPE, ESQUIRE
3175 Hanover Street
Palo Alto, California 94304-1130
650.843.5000

FOR THE PATENT OWNER:

BUNSOW DE MORY LLP
By: COREY JOHANNINGMEIER, ESQUIRE
701 El Camino Real
Redwood City, California 94063
650.351.7248

INDEX

PAGE

EXAMINATION BY MR. LAUPPE 5

EXHIBITS

PAGE

1035	Excerpt from Exhibit 2019, Declaration of Lawrence E. Larson	19
1036	Article: "Multimode Digital Control of a Suspended Polysilicon Microstructure"	21
1037	Dissertation: "Micromachined Dual Input Axis Rate Gyroscope"	22
1038	Article: "Utilization of GPS/MEMS-IMU for Measurement of Dynamics for Range Testing of Missiles and Rockets"	23
1039	American GNC Corporation website pages	34
2023	Declaration of Hiram McCall in Support of Patent Owner's Preliminary Responses	10

Friday, March 14, 2025; 1:03 p.m.

Woodland Hills, California

- - -

THE REPORTER: My name is Aileen Neitzert. My CSR number is 5318.

HIRAM McCALL,

having first been duly sworn by the reporter, was examined and testified as follows:

EXAMINATION

BY MR. LAUPPE:

Q. Hello, Mr. McCall. My name is Patrick Lauppe, and I'm here on behalf of petitioners today. Thank you for taking the time to sit with us today. Just to start out with some basic matters, have you been deposed before?

A. Yes.

Q. How many times have you been deposed before?

A. At least once.

Q. Ballpark, do you generally know how many times you've been deposed otherwise or --

A. Just leave it at once.

Q. Okay. Gotcha.

A. Years have gone by.

Q. When were you deposed before?

A. This was in 2011.

Q. And what was the proceeding that deposition was related to?

A. It was related to a patent, and the people who were calling for the deposition were, like, Furuno radar, guides for boats, and they had somebody else there, too, that were all asking questions. And I don't know exactly what the legal proceeding was, quite frankly, but it was -- it was under subpoena, and they did tape the testimony. Marine radar it was.

Q. And did that relate to a patent on which you are an inventor?

A. Yes, it did.

Q. Do you recall what the patent was that proceeding related to?

A. I actually can't remember which one it was back in -- it's been so many years.

Q. Who was the plaintiff in that matter?

A. I don't remember that one either.

Q. Gotcha. You say it was for -- it related to Furuno radar. Were they accused to infringing one of your patents?

A. Yes, they were.

Q. But you don't know, sitting here today, who was suing them, basically?

A. No.

Nintendo Exhibit 1048
IPR2024-00667 - Page 006

Q. Gotcha. Did you testify at trial in that matter?
A. No, I did not.
Q. And was that a district court proceeding? Let me rephrase. Was that an IPR proceeding, like the present ones we're discussing today?
A. Not that I know of, but, there again, I can't say that I know the answer to that.
Q. Gotcha. Did you submit a declaration in that proceeding?
A. No, I did not.
Q. Did you submit an expert report?
A. No, I did not.
Q. Gotcha. But you were being deposed as the inventor on the asserted patent; is that right?
A. Yes.
Q. Okay. Have you ever been deposed in the context of an IPR proceeding before?
A. No.
Q. Have you ever submitted a declaration in an IPR proceeding before?
A. No.
Q. And have you ever submitted a declaration in any legal proceeding previously?
A. To the best of my knowledge, proceedings I have

been involved in, it has not been declaration that I submitted.

Q. Have you ever submitted an expert report in a legal proceeding?

A. No.

Q. Okay. How did you prepare for today's deposition?

A. Well, I spent some time reviewing the declaration.

Q. Did you review any other documents in preparation for today's deposition?

A. From time to time I have gone back and reviewed my patents, just read through excerpts from some of the patents.

Q. And the patents you're referring to, are those U.S. Patent Number 6,508,122, or the '122 patent, and U.S. Patent Number 6,671,648, or the '648 patent?

A. That's correct.

Q. And so if I refer to those as the '122 patent and the '648 patent today, will you understand?

A. That's fine.

Q. Okay. Did you meet with anyone in preparation for today's deposition?

A. I have been having consultation with Corey.

Q. And Corey is counsel, correct?

A. Correct.
Q. Approximately how long did you meet with Mr. Johanningmeier?
A. Three hours.
Q. And just to clarify, by "Mr. Johanningmeier" I'm referring to Corey. Is that --
MR. JOHANNINGMEIER: That's me.
BY MR. LAUPPE:
Q. Just want to make it clear. You said about three hours?
A. Yes.
Q. Okay. Did you review any documents in your time meeting with Mr. Johanningmeier?
MR. JOHANNINGMEIER: Just before you go on, I just want to caution you for privilege purposes where I think we draw the line is you can answer that yes or no, but I think the particular documents that you reviewed would be off limits, so just wanted to caution you not to reveal any -- content of any discussions that we had.
THE WITNESS: The answer is yes.
BY MR. LAUPPE:
Q. Are you being compensated for your time in connection with these IPR proceedings?
A. No.

Q. And when I refer to "these IPR proceedings" or "the IPR proceedings," do you understand I'm referring to IPR2024-00667 and IPR2024-00668?

A. I'm not familiar with the legal way of describing what these things are, so...

Q. Understood. I'm just going to -- I'm going to introduce an exhibit. This is your declaration in the two IPR proceedings that we're discussing today and --

MR. JOHANNINGMEIER: This will be Exhibit 1?

MR. LAUPPE: I'm just going to keep the exhibit number of --

MR. JOHANNINGMEIER: Oh.

MR. LAUPPE: -- in the proceeding, so this will be Exhibit 2023.

MR. JOHANNINGMEIER: Sorry.

MR. LAUPPE: No, that's all right.

(Exhibit 2023 was marked for identification.)

BY MR. LAUPPE:

Q. So, Mr. McCall, if you could just look at the top of this declaration, at the top right hand corner, do you see where it says "IPR2024-00667" and IPR -- well, "2024-000668." Do you see that?

A. I see that.

Q. And do you understand those are the proceedings that we're discussing today?

A. Yes.

Q. Okay. And so if I refer to "these proceedings" or "the IPR proceedings" or "the present proceedings," do you understand I'm referring to those IPR proceedings?

A. Yes.

Q. Okay. Do you have a financial interest in the outcome of the dispute between American GNC and Nintendo?

A. No, I do not.

Q. And so turning, again, to your declaration, Exhibit 2023 in these proceedings, did you draft Exhibit 2023?

A. I myself did not do the original draft. However, there was working with -- with Corey. There was material presented. There was presentation of a draft that was made, and then that was exchanged back and forth several times to do editing and bring it to a final version. And I was pretty meticulous going through all the information in here, and it's satisfactory at this point.

Q. And generally -- sorry. Just to make sure my terminology is all clear, if I refer to the 667 IPR proceeding, you understand I'm referring to the IPR proceeding related to the '122 patent?

A. Yes.
Q. And if I refer to the 668 proceeding, do you understand I'm referring to the IPR proceeding related to the '648 patent?
A. Yes.
Q. Okay. How many hours have you worked on these proceedings to date?
A. I honestly don't -- didn't keep a record of the amount of time I was on it. It's been several hours.
Q. So that's in addition to the time you spent preparing for today's deposition; is that correct?
A. This answer is a little more detailed in that I review some of these patent materials and other technical materials quite often, and sometimes there's a mix of the time spent on that as -- included in time spent on looking at one of these preparations. And so to try to distinguish between the time spent on things that aren't related to this and time that is, I don't know that I could -- I could give you a good estimate on that time.
Q. Okay. Understood. In what capacity -- you said you were reviewing some of these patent materials. In what capacity are you -- well, first let's start, so what patent materials are you referring to?
A. Well, I have other work that I work on, just

for my own interest, that includes quite a lot of material from my other patents and along with other outside materials, so it's not like I haven't picked these things up and looked at them in the last, oh, several years. It's sort of an ongoing -- just the field I work in.

Q. And so can you describe in detail the other work that you worked on in the last several years related to the patents at issue in this case.

A. Well, I don't know that the material I had worked on is -- certainly the patents in this case are not drawn from the material I've worked on in the past several years. But there's ongoing work that relates to gyro technology and other sensor technology that has evolved further than beyond the years in which these patents were made, and that work is ongoing. I will probably work on that forever.

Q. Understood.

A. But -- yeah.

Q. When I refer to the institution decision or institution decisions in these proceedings, do you know what I'm referring to?

A. I do not.

Q. Okay. Understood. And if I refer to the district court litigation, do you understand that I'm

referring to the litigation in district court between AGNC and Nintendo?

A. Yes.

Q. And you understand that's a separate proceeding than these IPR proceedings?

A. Yes.

Q. Okay. Thank you. And are you aware that in those district court proceedings -- or in the district litigation, are you aware that video game systems are being accused?

A. I'm not aware of the particulars going on in that case.

Q. So you haven't been involved with the district court litigation?

A. I -- I certainly am not aware that I have been involved in it.

Q. Okay. Let's turn to your declaration, specifically paragraph 3, which is on -- starting on page 1. So do you see in paragraph 3, toward the bottom of the page, where you say, "I do not believe that my substantial inventive work leading to the filing of the patents was obvious to an ordinary engineer in the field at the time"?

A. I would agree with that.

Q. Okay. But you see that statement, correct?

A. Yes.
Q. Okay. What is an ordinary engineer?
A. I have no idea what rigorous definition of an ordinary engineer is. That's some term that has been used, and whoever uses it I would guess may have their own interpretation of what that is.
Q. Okay. Understood. So in your declaration, you have used the term "ordinary engineer," so when you use that term in your declaration, what do you mean by "an ordinary engineer in the field at the time"?
A. I would say it would be a person who has engineering background and engineering experience but likely not to be worked in a very specific area and likely not to be many, many years in a very specific area.
Q. And are you aware that Dr. Lawrence Larson is AGNC's expert in these proceedings?
A. Certainly I have heard that -- that spoken about in some of the discussions with Corey.
MR. JOHANNINGMEIER: And so I probably should have said -- I mean, the -- just remember that, you know, yes or no, are you aware is fine. To the extent that your awareness is based on me explaining stuff to you, then don't reveal the contents of the conversations we had, but...

BY MR. LAUPPE:

Q. Have you talked to Dr. Larson --

A. No.

Q. -- that you recall? No? Do you know Dr. Larson?

A. No.

Q. Let's turn to paragraph 20 of your declaration, Exhibit 2023. This is on page 8. Do you see at the start of that sentence where you say, "My circuit designs that led to the '122 and '648 Patents, including the digital signal processing elements of those designs, were successfully implemented in American GNC's coremicro IMU product"?

A. Yes.

Q. Are those the only patents that relate to American GNC's coremicro IMU product?

A. There are several patents. Whether or not they're the only ones, I just don't remember. I haven't reviewed a lot of the other patents.

Q. What other patents are you referring to?

A. Well, there's a total of 20 patents that I did at AGNC, and so if you take these two out, that would leave 18. I haven't reviewed all of those, and I don't -- I don't remember whether this was referred to in those patents or not.

Q. Outside of those 20 patents on which you were an inventor, are you aware of any other patents relating to American GNC's coremicro IMU product?

A. No, I can't say as I know.

Q. Let's turn to paragraph 9 of your declaration. That's a little bit further back. This is on page -- starting on page 3. So do you see at the start of paragraph 9 of your declaration, Exhibit 2023, where you say, "By the late 1990s, silicon MEMS based accelerometers were available and had been used in commercial products, such as automotive airbag sensors"? Do you see that?

A. Yes.

Q. Okay. Can you name any of the silicon MEMS-based accelerometers that were available and had been used in commercial products by the late 1990s?

A. Certainly there were some devices made by Analog Devices that had been used in certain applications that were, well, of consumer quality.

Q. Other than the Analog Devices products, are you aware of any other silicon MEMS-based accelerometers that were available and used in commercial products in the late 1990s?

A. I'm aware there were some other available, but I couldn't name the -- I couldn't name the company or

product brand for which they were available.

Q. Okay. Please turn to paragraph 11 of your declaration, Exhibit 2023. This starts on page 5. So at the top of paragraph 11, do you see where you reference "capacitive MEMS gyroscopes available at the time of the invention"? Do you see that?

A. Yes.

Q. Can you name any of the capacitive MEMS gyroscopes that you reference in paragraph 11?

A. Yes. There were two areas of work that were being use -- that were going on. One of them was at JPL. They were working on some MEMS gyros. And also -- then, of course -- well, there's JPL and there was MIT. Was MIT -- Draper Labs. Draper Labs was also working on one.

Q. Did you work at Draper Labs?

A. No.

Q. Okay. And did you work at JPL?

A. No.

Q. Okay. So you would admit that you didn't invent MEMS accelerometers, correct?

A. That's correct.

Q. And you would admit that you didn't invent MEMS gyroscopes, correct?

A. I certainly had innovations in MEMS gyroscopes

that are even there today.

Q. But there were MEMS gyroscopes available prior to either of -- either the '122 or '648 patents; is that correct?

A. There were some, let's say, lower performing types of gyros that were being worked by several companies, but as to what I'm aware of, none of these ever met the more stringent requirements needed by the marketplace.

Q. And those were MEMS gyroscopes?

A. Yes.

MR. LAUPPE: I'm going to introduce another exhibit. I think this is going to be -- what number do we have? Exhibit 1035.

(Exhibit 1035 was marked for identification.)

BY MR. LAUPPE:

Q. And Exhibit 1035 is a excerpt from the declaration of Dr. Lawrence E. Larson in these proceedings, Exhibit 2019, paragraph 57.

So Mr. McCall, do you see where Dr. Larson has -- what we have provided as his definition of a person of ordinary skill in the art in this exhibit?

A. I see that.

Q. Okay. And do you see where it says, "a person of ordinary skill in the art would have at least a

Master's Degree in Electrical or Electronics Engineering, and approximately five years of relevant experience in the development of control systems for inertial navigation, MEMS semiconductor processing, and analog circuit design--with additional education substituting for experience and vice versa"? Do you see that?

A. Yes.

Q. How did you meet Dr. Larson's person of ordinary skill standard in 1999?

A. I certainly had more than five years' experience working in the field, many more than five, more than five years working in the development of control systems. Work in the semiconductor processing area. More years than that in analog circuit design.

Q. And just to point you to the educational requirement, did you have a master's degree in electrical or electronics engineering in 1999?

A. Yes.

Q. Okay. And so you said you had at least the five years of experience in the field in Dr. Larson's person of ordinary skill in the art definition. What experience -- in what -- sorry.

In what roles did you gain that experience?

A. Well, it was an engineering role. It was

working on navigation equipment, navigation equipment that contained gyroscopes and accelerometers. Also some work in the use of those instruments in flight control, some use of those instruments in the support of other systems. Mostly the work was done, though, in the inertial navigation area.

Q. And when you refer to this prior work you did in the field, was this for a particular company?

A. Yes.

Q. What company was that?

A. At the time it was known as Litton Guidance and Control Systems.

Q. Litton Guidance, you said? Okay. When did you start working at Litton Guidance and Control Systems?

A. 1978.

MR. LAUPPE: I'm going to introduce an exhibit. This is going to be Exhibit 1036.

(Exhibit 1036 was marked for identification.)

BY MR. LAUPPE:

Q. And Exhibit 1036 is an article by Gary K. Fedder and Roger T. Howe titled "Multimode Digital Control of a Suspended Polysilicon Microstructure," published in 1996. Mr. --

MR. JOHANNINGMEIER: Just for the record, I'm just going to object to the exhibit, but go on.

MR. LAUPPE: Okay. Understood.
BY MR. LAUPPE:
Q. Mr. McCall, have you seen this article before?
A. No, I don't recall seeing it.
Q. So you weren't aware of this article in 1999, correct?
A. That's correct.
MR. LAUPPE: Okay. I'm going to introduce another exhibit. This is going to be Exhibit 1037.
(Exhibit 1037 was marked for identification.)
BY MR. LAUPPE:
Q. And this is -- turn the page to 3 or so. This is a dissertation by Thor Nelson Juneau titled "Micromachined Dual Input Axis Rate Gyroscope," from 1998.
Mr. McCall, have you seen this dissertation before?
A. No, I haven't.
MR. JOHANNINGMEIER: Just for the record -- I didn't get it in before you asked the question, but we object to this exhibit as well.
BY MR. LAUPPE:
Q. So you weren't aware of this article -- this dissertation in 1999, correct?
A. That's correct.

MR. LAUPPE: Okay. And then I'm going to introduce an exhibit, Exhibit Number 1038.

(Exhibit 1038 was marked for identification.)

BY MR. LAUPPE:

Q. Which is an article titled "Utilization of GPS/MEMS-IMU for Measurement of Dynamics for Range Testing of Missiles and Rockets," by Roy R. Minor and David W. Rowe, published in 1998.

MR. JOHANNINGMEIER: We also object to this exhibit.

BY MR. LAUPPE:

Q. Mr. McCall, have you seen this article before?

A. No, I haven't.

Q. Okay. So you weren't aware of this article in 1999, correct?

A. That's correct.

Q. Okay. So now let's go back to your declaration, Exhibit 2023. And please turn to paragraph 3, which is on -- starting on page 1.

And, Mr. McCall, please let me know if you need a break at any time, but like I say, I'm hoping to get you out of here pretty soon.

So, actually, if you could turn to page 2, sort of the bottom half of paragraph 3, do you see where you say at the bottom of paragraph 3, "But I understand

that I am not being asked for my personal or expert opinion on this matter. Instead, I confine my testimony to the factual context of the inventive work"? Do you see that?

A. Yes.

Q. And do you stand by that statement?

A. Yes.

Q. So I'd just like to confirm, you are not offering any opinions in this declaration, Exhibit 2023; is that correct?

A. No.

Q. Okay. And you were not asked to give an opinion about the validity of the claims; is that correct?

A. That's correct.

Q. Okay. And you were not offering opinions about the validity of the claims at issue in this declaration, correct?

A. That's correct.

Q. Okay. And you have no position on the validity of the claims; is that correct?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: I have some personal feelings about it, but as for any legal opinions, I haven't been asked for any and haven't offered any.

BY MR. LAUPPE:
Q. Are you an attorney?
A. No.
Q. Okay. Do you consider yourself a technical expert?
MR. JOHANNINGMEIER: Objection. Vague.
THE WITNESS: I do have some technical expertise. Of opinion for me to judge whether I'm a technical expert or not, I don't make those kind of judgments.
BY MR. LAUPPE:
Q. Have you worked for NASA?
A. No, I have not.
Q. Okay. Did you invent angular rate sensors?
MR. JOHANNINGMEIER: Objection. Calls for a legal conclusion.
Please answer. Sorry.
THE WITNESS: I can answer?
MR. JOHANNINGMEIER: Yeah.
THE WITNESS: Certainly the material that I contributed to these specific types of gyros is indeed a type of an angular rate sensor.
BY MR. LAUPPE:
Q. But angular rate sensors existed before, correct?

A. That's a good question, and that is correct.
Q. Okay. Did capacitors exist prior to the patents at issue in these proceedings?
A. Yes.
Q. Did analog signals exist prior to the patents at issue in these proceedings?
A. Yes.
Q. Did you invent digital signals?
A. Certain specific types of digital signals are unique to work I have done.
Q. But digital signals existed prior to any work you did, correct?
A. If you consider that in a broad sense, yes.
Q. Okay. Did capacitive sensing exist prior to the patents at issue in this -- in these proceedings?
A. Yes, they did.
Q. Did analog-to-digital converters exist prior to the patents at issue in these proceedings?
A. The type of analog-to-digital conversion done in circuitry of the gyroscopes that I have as my inventions, I don't know whether that existed before or not. Other types of A-to-D converters did exist.
Q. And did digital-to-analog converters exist prior to these patents?
A. Yes.

Nintendo Exhibit 1048
IPR2024-00667 - Page 026

Q. Did low-pass filters exist prior to these patents?
A. Yes.
MR. JOHANNINGMEIER: I'm just going to object to scope, but you can answer.
BY MR. LAUPPE:
Q. Did inertial sensors exist prior to the patents at issue in these proceedings?
A. Non-MEMS versions definitely existed.
Q. And MEMS versions existed as well, correct?
A. Lower quality ones existed.
Q. Did digital signal processing exist prior to the patents at issue in these proceedings?
A. Specific digital signal processing used in these patents did not exist, but digital signal processing as a broad term did exist.
Q. Did feedback loops exist prior to the patents at issue in these proceedings?
A. The specific feedback loops used in these patents, to my knowledge, did not exist, but digital feedback loops or feedback loops in general did exist.
Q. How about force feedback loops?
A. I'm not sure I understand what you're referring to there. There's many different types of feedback loops that -- that use sensors to measure forces and

then feed back the signal, so I might need a more specific description or exhibit of what you're talking about there to be able to answer that question accurately.

Q. Understood. But you just referred to different types of feedback loops that use sensors to measure forces and then feed back the signal, correct?

A. Correct.

Q. Did any of those types of feedback loops exist prior to the patents at issue in these proceedings?

A. There were types of feedback loops that are not specific to this patent that existed.

Q. Did transimpedance amplifiers exist prior to the patents at issue in these proceedings?

MR. JOHANNINGMEIER: Objection. Scope.

THE WITNESS: In a broad sense transimpedance amplifiers did exist, the specific realizations of them that are specific to this patent.

BY MR. LAUPPE:

Q. How about summers? Did those exist -- sorry. Did those exist prior to the patents at issue in these proceedings?

MR. JOHANNINGMEIER: Same objection.

THE WITNESS: Should I go ahead and answer?

MR. JOHANNINGMEIER: Yeah, I mean, you can

answer these. I'm just objecting for the record.

THE WITNESS: The specific realization of the type of summer and the signals that were being summed in these patents is indeed new work, but summers definitely existed in the broad sense.

BY MR. LAUPPE:

Q. And did high-pass filters exist in the prior art?

A. There again, not the specific realization used in these patents, but in a broad sense, yes.

Q. Did demodulators exist in the prior art?

A. The specific --

MR. JOHANNINGMEIER: Objection. Scope. Sorry.

THE WITNESS: The specific ones used in this patent are -- well, they're very specific realization, but in the general terms, yes.

BY MR. LAUPPE:

Q. And did voltage amplifiers exist prior to the patents at issue in these proceedings?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: This is a very broad term. Yes, they did.

BY MR. LAUPPE:

Q. Did integrators exist in the prior art?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: The type of integrations that's done in this art is very specific to these patents. Integrators in general did exist before.

BY MR. LAUPPE:

Q. Did drive amplifiers exist prior to these patents?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: The specific realizations in these patents is unique to these patents. A broader sense of drive amplifiers did exist.

BY MR. LAUPPE:

Q. How about oscillators?

MR. JOHANNINGMEIER: Objection.

BY MR. LAUPPE:

Q. And, sorry, let me make that question more clear. Did oscillators exist in the prior art to these patents?

MR. JOHANNINGMEIER: Same objection.

THE WITNESS: I don't know. I'm not familiar with all the prior art.

BY MR. LAUPPE:

Q. Did discrete Fourier transform, or FFT -- did that exist in the prior art?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: There again, that's a broad term.

For various kinds of products FFTs have existed.
BY MR. LAUPPE:
Q. And they existed in the prior art; is that correct?
A. Well, I don't know --
MR. JOHANNINGMEIER: Objection.
THE WITNESS: -- about the prior art.
BY MR. LAUPPE:
Q. Did you invent the discrete Fourier transform, or FFT?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: The specific type of Fourier material that is used in these patents is unique to these patents. That that is used for other types of processing, no, I didn't invent that.
BY MR. LAUPPE:
Q. Did you invent phase lock loops?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: The realization in these patents is unique to these patents. The phase lock loops are another broad term that have been used in lots of products. Those did exist before these patents.
BY MR. LAUPPE:
Q. Did you invent the inertial measurement unit, or IMU?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: The term is used as a broad term for various configurations of inertial sensors. The invention of the term itself was used before these patents.

BY MR. LAUPPE:

Q. Do you know what 6-degree-of-freedom tracking is? Is that clear to you what that is?

A. I know what it is.

Q. Did that exist in the prior art to the patents at issue in these proceedings, 6-degree-of-freedom tracking?

MR. JOHANNINGMEIER: Objection.

THE WITNESS: I don't know if it's in the prior art or not. I don't -- I haven't reviewed all the prior art.

BY MR. LAUPPE:

Q. But it existed prior to the patents at issue in these proceedings, correct, the 6-degree-of-freedom tracking?

A. Well, depending on your definition of the terms. I don't know. Don't -- I don't know. I don't know how to answer that one.

Q. You said you understood what 6-degree-of-freedom tracking is, correct?

A. Yes.
Q. So what is your understanding of 6-degree-of-freedom tracking?
MR. JOHANNINGMEIER: Objection. Scope.
THE WITNESS: Well, there's six types of motion that an object can be exhibiting or encountering, and any system that would track that motion, you could -- I guess you could call that a tracker.
BY MR. LAUPPE:
Q. So systems that tracked motion in all six degrees of freedom, did those exist before the patents at issue in these proceedings?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: The type of tracking that this type of -- that's in these patents is unique to these patents. There were other types that existed before these patents, but --
BY MR. LAUPPE:
Q. And -- oh, I'm sorry. Any other --
A. But they may or may not have had anything to do with -- with any inertial equipment.
Q. Did you invent voltage signals?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: Voltage signals have been around a long time. These patents contain some very unique

voltage signals, but others have been around before these patents.

MR. LAUPPE: Okay. I'm going to introduce another exhibit, and then I think we should be pretty close to done. So this is going to be Exhibit 1039.

(Exhibit 1039 was marked for identification.)

BY MR. LAUPPE:

Q. And, I'm sorry, this is very small, so we can blow it up on the screen if necessary. This is a website -- this is a printout of a website, www.AmericanGNC.com/about. And I would just like to direct you to the third page, if you turn there. And, actually, I'm sorry, it's the -- yes, the third page. And I apologize for the size. It was really hard to print this out, but do let me know if it would be helpful to have this blown up on the screen.

A. Okay.

Q. Okay. Have you seen the website shown on Exhibit 1039 before, Mr. McCall?

A. I don't -- I don't -- I can't say that I have.

Q. And then on page 3, which I think you were just reviewing -- sorry to make you look at this text again -- do you see where it says, "Hiram McCall" -- this is at the very top of that paragraph -- "Hiram McCall is currently the Director of Products at

American GNC Corporation...." Do you see that?
A. Yes.
Q. Okay. Is that true?
A. Well, I mean, I'm retired at this point, but...
Q. So are you not the Director of Products at American GNC Corporation?
A. Currently?
Q. Well, what this says is, "Hiram McCall is currently the Director of Products at American GNC Corporation...." Do you see that?
A. Yes.
Q. So it sounds like that might not be true. Is that correct?
MR. JOHANNINGMEIER: Objection.
MR. LAUPPE: And I'll rephrase the question.
BY MR. LAUPPE:
Q. So are you not currently the Director of Products at American GNC Corporation, Mr. McCall?
A. I'm retired.
Q. So does that mean you're not currently the Director of Products at American GNC Corporation?
MR. JOHANNINGMEIER: Objection. Asked and answered.
THE WITNESS: Well, I definitely do some advisory tasks from time to time in assistance to the

Nintendo Exhibit 1048
IPR2024-00667 - Page 035

work that's going on there.
BY MR. LAUPPE:
Q. But you're not aware that you're currently the Director of Products at American GNC Corporation; is that correct?
A. This is the first time I've seen this.
Q. Are you being compensated by American GNC as its Director of Products?
A. No.
Q. Do you know what your duties are as AGNC's Director of Products?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: As I said, I have definitely been offering some -- you can call it consulting-type services without compensation and advisory services. And similarly for things like these proceedings, I'm not compensated for any of that, which is clearly efforts being contributed to American GNC.
BY MR. LAUPPE:
Q. So to your knowledge, you are not currently the Director of Products at American GNC Corporation; is that correct?
MR. JOHANNINGMEIER: Objection. Asked and answered.
THE WITNESS: Depends on your definition,

doesn't it?
BY MR. LAUPPE:
Q. Is your work in the present proceedings part of your work as American GNC's Director of Products?
MR. JOHANNINGMEIER: Objection.
THE WITNESS: There again, as I say, I contribute to the efforts that are going on there fairly often but in a non-compensated form. I'm not an expert in the wording and the wordsmithing of these types of questions that you're answering [sic], so I don't really know how to answer them.
BY MR. LAUPPE:
Q. And I just want to direct you to another part of this paragraph. So toward the bottom, about five lines up, do you see where it says, "From 2015 to the present" -- do you see that?
A. Yes.
Q. Okay. "From 2015 to the present Hiram has supported the successful licensing of AGNC patents (including but not limited to those patents with him as the inventor) in the areas of silicon MEMS inertial rate sensors and critical interfacing circuits." Do you see that?
A. Yes.
Q. Is --

A. This is an accurate statement.

Q. And how have you supported licensing of AGNC patents from 2015 to the present?

MR. JOHANNINGMEIER: So just to caution you because, you know, that answer could theoretically get into work that you've been doing with lawyers, and so I don't want you to detail communications you've had with lawyers. I think high-level general descriptions are probably fine, but just be careful not to reveal any -- substance of any communications you've had with lawyers about what you should be doing or why.

THE WITNESS: Okay. Since my patents were submitted years ago, there has been continued work going on at AGNC, and I certainly have been asked and have assisted in the effort to bring that work to some fruition.

BY MR. LAUPPE:

Q. What are you currently doing at AGNC to support the licensing of AGNC patents?

MR. JOHANNINGMEIER: I think that's probably a little bit over the line, so to the extent that's calling for anything that you have been directed to do by counsel, don't answer. I think very high-level broad statements about the kind of work you're doing are probably fine, but there is a very narrow line

there, so just don't reveal any -- don't say anything that would reveal information that you have been instructed from counsel.

THE WITNESS: Well, as Corey says, there's been some items of work that are specific to the legal side of it.

BY MR. LAUPPE:

Q. Is your work in the present proceedings part of your work supporting the licensing of AGNC patents?

A. Well, the discussions I've been having with Corey, I can't recall anything that was brought up about current licensing in any of these recent discussions.

MR. LAUPPE: Okay. We've been going about an hour. How about we take a quick break, and then I think we should be pretty close.

THE WITNESS: Okay.

(Break taken from 2:00 p.m. to 2:11 p.m.)

MR. LAUPPE: So no further questions from petitioners in these proceedings.

MR. JOHANNINGMEIER: Okay. So we have no questions at this point.

MR. LAUPPE: Great. Then we will let you go.

THE REPORTER: Mr. Johanningmeier, do you want to order a copy of the transcript or a rough of the

transcript?

MR. JOHANNINGMEIER: I mean, I want a copy of the transcript. Just on a regular delivery, that's fine. I don't need a rough.

(Ending time: 2:11 p.m.)

STATE OF CALIFORNIA)
) SS.
COUNTY OF LOS ANGELES)

I, HIRAM McCALL, hereby certify under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____ 202__, at _____, California.

_____
HIRAM McCALL

STATE OF CALIFORNIA)
)
COUNTY OF LOS ANGELES)

I, AILEEN NEITZERT, do hereby certify:

That I am a duly qualified Certified Shorthand Reporter, in and for the State of California, holder of certificate number 5318, which is in full force and effect, and that I am authorized to administer oaths and affirmations;

That the foregoing deposition testimony of the herein named witness was taken before me at the time and place herein set forth;

That prior to being examined, the witness named in the foregoing deposition, was duly sworn or affirmed by me, to testify the truth, the whole truth, and nothing but the truth;

That the testimony of the witness and all objections made at the time of the examination were recorded stenographically by me and were thereafter transcribed under my direction and supervision;

That the foregoing pages contain a full, true, and accurate record of the proceedings and testimony to the best of my skill and ability;

I further certify that I am not a relative

or employee or attorney or counsel of any of the parties, nor am I financially interested in the outcome of this action.

IN WITNESS WHEREOF, I have subscribed my name this 17th day of March, 2025.

Aileen Neitzert

AILEEN NEITZERT, CSR NO. 5318

A
a-to-d
26:22
ability
42:25
able
28:3
about
9:9, 15:19, 24:13, 24:16, 24:24, 27:22, 28:3, 28:20, 30:12, 31:7, 34:11, 37:14, 38:11, 38:24, 39:12, 39:14, 39:15
accelerometers
17:10, 17:15, 17:21, 18:21, 21:2
accurate
38:1, 42:24
accurately
28:4
accused
6:20, 14:10
action
43:3
actually
6:15, 23:23, 34:13
addition
12:10
additional
20:5
administer
42:10
admit
18:20, 18:23
advisory
35:25, 36:15
affirmations
42:11
affirmed
42:16
again
7:7, 11:11, 29:9, 30:25, 34:23, 37:6
agnc
14:2, 16:22, 37:19, 38:2, 38:14, 38:18, 38:19, 39:9
agnc's
15:17, 36:10
ago
38:13
agree
14:24
ahead
28:24
aileen
1:24, 2:4, 5:4, 42:5, 43:10
airbag
17:11
all
6:6, 10:16, 11:20, 11:23, 16:23, 30:20, 32:15, 33:10, 42:19
along
13:2
also
18:13, 18:14, 21:2, 23:9
alto
3:7
america
1:6
american
1:9, 4:18, 11:8, 16:13, 16:16, 17:3, 35:1, 35:6, 35:9, 35:18, 35:21, 36:4, 36:7, 36:18, 36:21, 37:4
americangnc
34:11
amount
12:9
amplifiers
28:13, 28:17, 29:18, 30:5, 30:10
analog
17:18, 17:20, 20:5, 20:15, 26:5
analog-to-digital
26:17, 26:19
angeles
41:3, 42:3
angular
25:14, 25:22, 25:24
another
19:12, 22:9, 31:21, 34:4, 37:13
answer
7:8, 9:16, 9:21, 12:12, 25:17, 25:18, 27:5, 28:3, 28:24, 29:1, 32:23, 37:11, 38:5, 38:23
answered
35:23, 36:24
answering
37:10
any
7:24, 8:10, 9:12, 9:19, 17:2, 17:14, 17:21, 18:8, 23:21, 24:9, 24:24, 24:25, 26:11, 28:9, 33:7, 33:19, 33:21, 36:17, 38:9, 38:10, 39:1, 39:12, 43:1
anyone
8:22
anything
33:20, 38:22, 39:1, 39:11
apologize
34:14
appeal
1:3
appearances
3:1
applications
17:19
approximately
9:2, 20:2
area
15:13, 15:15, 20:15, 21:6
areas
18:10, 37:21
aren't
12:18
around
33:24, 34:1
art
19:22, 19:25, 20:22, 29:8, 29:11, 29:24, 30:2, 30:16, 30:20, 30:23, 31:3, 31:7, 32:10, 32:15, 32:16
article
4:10, 4:15, 21:20, 22:3, 22:5, 22:23, 23:5, 23:12, 23:14
asked
22:20, 24:1, 24:12, 24:25, 35:22, 36:23, 38:14
asking
6:6
asserted
7:15
assistance
35:25
assisted
38:15

attorney
25:2, 43:1
authorized
42:10
automotive
17:11
available
17:10, 17:15, 17:22, 17:24, 18:1, 18:5, 19:2
avenue
2:2
aware
14:7, 14:9, 14:11, 14:15, 15:16, 15:22, 17:2, 17:21, 17:24, 19:7, 22:5, 22:23, 23:14, 36:3
awareness
15:23
axis
4:14, 22:14

B

b1
1:13
b2
1:15
back
6:15, 8:12, 11:17, 17:6, 23:17, 28:1, 28:7
background
15:12
ballpark
5:19
based
15:23, 17:9, 17:15
basic
5:14
basically
6:24
because
38:5
been
5:7, 5:14, 5:17, 5:20, 6:16, 7:17, 8:1, 8:24, 12:9, 14:13, 14:15, 15:4, 17:10, 17:15, 17:18, 24:24, 31:21, 33:24, 34:1, 36:13, 38:6, 38:13, 38:14, 38:22, 39:2, 39:4, 39:10, 39:14
before
1:3, 2:4, 5:15, 5:17, 5:24, 7:18, 7:21, 9:14, 22:3, 22:17, 22:20, 23:12, 25:24, 26:21, 30:3, 31:22, 32:4, 33:11, 33:16, 34:1, 34:19, 42:13
beginning
2:3
behalf
2:1, 5:12
being
7:14, 9:23, 14:10, 18:11, 19:6, 24:1, 29:3, 36:7, 36:18, 42:15
believe
14:20
best
7:25, 42:25
between
11:8, 12:17, 14:1
beyond
13:15
bit
17:6, 38:21
blow
34:9
blown
34:16
board
1:3
boats
6:5
bottom
14:20, 23:24, 23:25, 37:14
brand
18:1
break
23:21, 39:15, 39:18
bring
11:18, 38:15
broad
26:13, 27:16, 28:16, 29:5, 29:10, 29:21, 30:25, 31:21, 32:2, 38:24
broader
30:9
brought
39:11
bunsow
3:11

C

california
1:19, 2:3, 3:7, 3:14, 5:2, 41:1, 41:7, 41:10, 42:1, 42:8
call
33:8, 36:14
calling
6:4, 38:22
calls
25:15
camino
3:13
can't
6:15, 7:7, 17:4, 34:20, 39:11
canoga
2:2
capacitive
18:5, 18:8, 26:14
capacitors
26:2
capacity
12:21, 12:23
careful
38:9
case
13:9, 13:11, 14:12
caution
9:15, 9:18, 38:4
certain
17:18, 26:9
certainly
13:11, 14:15, 15:18, 17:17, 18:25, 20:11, 25:20, 38:14
certificate
42:9
certified
2:5, 42:7
certify
41:6, 42:5, 42:26
circuit
16:9, 20:5, 20:15
circuitry
26:20
circuits
37:22
city
3:14
claims
24:13, 24:17, 24:21
clarify
9:5
clear
9:9, 11:23,

30:16, 32:8
clearly
36:17
close
34:5, 39:16
com
34:11
commercial
17:11, 17:16, 17:22
communications
38:7, 38:10
companies
19:7
company
17:25, 21:8, 21:10
compensated
9:23, 36:7, 36:17
compensation
36:15
conclusion
25:16
configurations
32:3
confine
24:2
confirm
24:8
connection
9:24
consider
25:4, 26:13
consultation
8:24
consulting-type
36:14
consumer
17:19
contain
33:25, 42:23
contained
21:2
content
9:19
contents
15:24
context
7:18, 24:3
continued
38:13
contribute
37:7
contributed
25:21, 36:18
control
4:10, 20:3, 20:14, 21:4, 21:12, 21:14, 21:22
conversations
15:25
conversion
26:19
converters
26:17, 26:22, 26:23
cooley
3:4
copy
39:25, 40:2
coremicro
16:13, 16:16, 17:3
corey
3:12, 8:24, 8:25, 9:6, 11:15, 15:19, 39:4, 39:11
corner
10:20
corporation
1:9, 4:18, 35:1, 35:6, 35:10, 35:18, 35:21, 36:4, 36:21
correct
8:18, 8:25, 9:1, 12:11, 14:25, 18:21, 18:22, 18:24, 19:4, 22:6, 22:7, 22:24, 22:25, 23:15, 23:16, 24:10, 24:14, 24:15, 24:18, 24:19, 24:21, 25:25, 26:1, 26:12, 27:10, 28:7, 28:8, 31:4, 32:19, 32:25, 35:13, 36:5, 36:22, 41:8
could
10:19, 12:19, 23:23, 33:7, 33:8, 38:5
couldn't
17:25
counsel
8:25, 38:23, 39:3, 43:1
county
41:3, 42:3
course
18:13
court
7:4, 13:25, 14:1, 14:8, 14:14
critical
37:22
csr
1:24, 5:5, 43:10
current
39:12
currently
34:25, 35:7, 35:9, 35:17, 35:20, 36:3, 36:20, 38:18

D

date
12:7
david
23:8
day
41:9, 43:6
de
3:11
decision
13:20
decisions
13:21
declaration
4:8, 4:19, 7:9, 7:20, 7:23, 8:1, 8:9, 10:7, 10:20, 11:11, 14:17, 15:7, 15:9, 16:7, 17:5, 17:8, 18:3, 19:18, 23:18, 24:9, 24:18
definitely
27:9, 29:5, 35:24, 36:13
definition
15:3, 19:21, 20:22, 32:21, 36:25
degree
20:1, 20:17
degrees
33:11
delivery
40:3
demodulators
29:11
depending
32:21
depends
36:25
deposed
5:15, 5:17, 5:20, 5:24, 7:14, 7:17
deposition
1:17, 2:1, 6:1, 6:4, 8:7, 8:11, 8:23, 12:11, 42:12, 42:16
describe
13:7
describing
10:5
description
28:2

descriptions
38:8
design
20:15
design--with
20:5
designs
16:10, 16:12
detail
13:7, 38:7
detailed
12:12
development
20:3, 20:13
devices
17:17, 17:18, 17:20
different
27:24, 28:5
digital
4:10, 16:11, 21:21, 26:8, 26:9, 26:11, 27:12, 27:14, 27:15, 27:20
digital-to-analog
26:23
direct
34:12, 37:13
directed
38:22
direction
42:22
director
34:25, 35:5, 35:9, 35:17, 35:21, 36:4, 36:8, 36:11, 36:21, 37:4
discrete
30:22, 31:9
discussing
7:6, 10:8, 10:25
discussions
9:19, 15:19, 39:10, 39:13
dispute
11:8
dissertation
4:13, 22:13, 22:16, 22:24
distinguish
12:17
district
7:4, 13:25, 14:1, 14:8, 14:13
documents
8:10, 9:12, 9:17
doing
38:6, 38:11, 38:18, 38:24
done
21:5, 26:10, 26:19, 30:2, 34:5
dr
15:16, 16:2, 16:4, 19:18, 19:20, 20:9, 20:21
draft
11:12, 11:14, 11:17
draper
18:14, 18:16
draw
9:16
drawn
13:12
drive
30:5, 30:10
dual
4:13, 22:14
duly
5:7, 42:7, 42:16
duties
36:10
dynamics
4:16, 23:6

E

editing
11:18
education
20:5
educational
20:16
effect
42:10
effort
38:15
efforts
36:18, 37:7
either
6:18, 19:3
el
3:13
electrical
20:1, 20:18
electronics
20:1, 20:18
elements
16:11
else
6:5
employee
43:1
encountering
33:6
ending
40:5
engineer
14:23, 15:2, 15:4, 15:8, 15:10
engineering
15:12, 20:2, 20:18, 20:25
equipment
21:1, 33:21
esquire
3:5, 3:12
estimate
12:19
even
19:1
ever
7:17, 7:20, 7:23, 8:3, 19:8
evolved
13:15
exactly
6:7
examination
4:3, 5:9, 42:20
examined
5:8, 42:15
excerpt
4:8, 19:17
excerpts
8:13
exchanged
11:17
executed
41:9
exhibit
4:8, 10:7, 10:9, 10:10, 10:14, 10:17, 11:12, 11:13, 16:8, 17:8, 18:3, 19:13, 19:14, 19:15, 19:17, 19:19, 19:22, 21:16, 21:17, 21:18, 21:20, 21:25, 22:9, 22:10, 22:21, 23:2, 23:3, 23:10, 23:18, 24:10, 28:2, 34:4, 34:5, 34:6, 34:19
exhibiting
33:6
exhibits
4:6
exist
26:2, 26:5, 26:14, 26:17, 26:22, 26:23, 27:1, 27:7, 27:12, 27:15, 27:16, 27:17, 27:20, 27:21, 28:9, 28:13, 28:17, 28:20, 28:21, 29:7,

29:11, 29:18, 29:24, 30:3, 30:5, 30:10, 30:16, 30:23, 31:22, 32:10, 33:11
existed 25:24, 26:11, 26:21, 27:9, 27:10, 27:11, 28:12, 29:5, 31:1, 31:3, 32:18, 33:16
experience 15:12, 20:3, 20:6, 20:12, 20:21, 20:23, 20:24
expert 7:12, 8:3, 15:17, 24:1, 25:5, 25:9, 37:9
expertise 25:8
explaining 15:23
extent 15:22, 38:21

F

factual 24:3
fairly 37:8
familiar 10:4, 30:19
fedder 21:21
feed 28:1, 28:7
feedback 27:17, 27:19, 27:21, 27:22, 27:24, 28:6, 28:9, 28:11
feelings 24:23
fft 30:22, 31:10
ffts 31:1
field 13:6, 14:23, 15:10, 20:12, 20:21, 21:8
filing 14:22
filters 27:1, 29:7
final 11:19
financial 11:7
financially 43:2
fine 8:21, 15:22, 38:9, 38:25, 40:4
first 5:7, 12:23, 36:6
five 20:2, 20:11, 20:12, 20:13, 20:21, 37:14
flight 21:3
floor 2:2
follows 5:8
force 27:22, 42:9
forces 27:25, 28:7
foregoing 41:8, 42:12, 42:16, 42:23
forever 13:17
form 37:8
forth 11:18, 42:14
fourier 30:22, 31:9, 31:12
frankly 6:8
freedom 32:25, 33:3, 33:11
friday 1:20, 2:4, 5:1
fruition 38:16
full 42:9, 42:23
further 13:15, 17:6, 39:19, 42:26
furuno 6:4, 6:20

G

gain 20:24
game 14:9
gary 21:20
general 27:21, 29:16, 30:3, 38:8
generally 5:19, 11:22
give 12:19, 24:12
gnc 1:9, 4:18, 11:8, 35:1, 35:6, 35:9, 35:18, 35:21, 36:4, 36:7, 36:18, 36:21
gnc's 16:13, 16:16, 17:3, 37:4
go 9:14, 21:25, 23:17, 28:24, 39:23
going 10:6, 10:10, 11:19, 14:11, 18:11, 19:12, 19:13, 21:16, 21:17, 21:25, 22:8, 22:9, 23:1, 27:4, 34:3, 34:5, 36:1, 37:7, 38:14, 39:14
gone 5:23, 8:12
good 12:19, 26:1
gotcha 5:22, 6:19, 7:1, 7:9, 7:14
gps 4:15, 23:6
great 39:23
guess 15:5, 33:8
guidance 21:11, 21:13, 21:14
guides 6:5
gyro 13:14
gyros 18:12, 19:6, 25:21
gyroscope 4:14, 22:14
gyroscopes 18:5, 18:9, 18:24, 18:25, 19:2, 19:10, 21:2, 26:20

H

half 23:24
hand 10:20
hanover 3:6
hard 34:14

heard
15:18
hello
5:11
helpful
34:16
here
5:12, 6:23, 11:20, 23:22
hereby
41:6, 42:5
herein
42:13, 42:14
high-level
38:8, 38:23
high-pass
29:7
hills
1:19, 2:3, 5:2
hiram
1:18, 2:1, 4:19, 5:6, 34:23, 34:24, 35:8, 37:18, 41:6, 41:16
holder
42:8
honestly
12:8
hoping
23:21
hour
39:15
hours
9:4, 9:10, 12:6, 12:9
howe
21:21
however
11:15

I

idea
15:3
identification
10:17, 19:15, 21:18, 22:10, 23:3, 34:6
implemented
16:12
imu
16:13, 16:16, 17:3, 31:25
inc
1:6
included
12:15
includes
13:1
including
16:11, 37:20
indeed
25:21, 29:4
index
4:1
inertial
20:4, 21:6, 27:7, 31:24, 32:3, 33:21, 37:21
information
11:20, 39:2
infringing
6:20
innovations
18:25
input
4:14, 22:14
instead
24:2
institution
13:20, 13:21
instructed
39:3
instruments
21:3, 21:4
integrations
30:1
integrators
29:24, 30:3
interest
11:7, 13:1
interested
43:2
interfacing
37:22
interpretation
15:6
introduce
10:7, 19:12, 21:16, 22:8, 23:2, 34:3
invent
18:21, 18:23, 25:14, 26:8, 31:9, 31:15, 31:17, 31:24, 33:22
invention
18:6, 32:4
inventions
26:21
inventive
14:21, 24:3
inventor
6:11, 7:15, 17:2, 37:21
involved
8:1, 14:13, 14:16
ipr
1:12, 1:14, 7:5, 7:18, 7:20, 9:24, 10:1, 10:2, 10:3, 10:8, 10:21, 11:3, 11:4, 11:23, 11:24, 12:3, 14:5
issue
13:9, 24:17, 26:3, 26:6, 26:15, 26:18, 27:8, 27:13, 27:18, 28:10, 28:14, 28:21, 29:19, 32:11, 32:18, 33:12
items
39:5
itself
32:4

J

job
1:25
johanningmeier
3:12, 9:3, 9:5, 9:7, 9:13, 9:14, 10:9, 10:12, 10:15, 15:20, 21:24, 22:19, 23:9, 24:22, 25:6, 25:15, 25:19, 27:4, 28:15, 28:23, 28:25, 29:13, 29:20, 29:25, 30:7, 30:13, 30:18, 30:24, 31:6, 31:11, 31:18, 32:1, 32:13, 33:4, 33:13, 33:23, 35:14, 35:22, 36:12, 36:23, 37:5, 38:4, 38:20, 39:21, 39:24, 40:2
jpl
18:12, 18:13, 18:18
judge
25:8
judgments
25:10
juneau
22:13

K

keep
10:10, 12:8
kind
25:9, 38:24
kinds
31:1
know
5:19, 6:7, 6:23, 7:7, 7:8, 12:19, 13:10, 13:21, 15:22, 16:4, 17:4, 23:20, 26:21, 30:19, 31:5,

32:7, 32:9, 32:14, 32:22, 32:23, 34:15, 36:10, 37:11, 38:5
knowledge 7:25, 27:20, 36:20
known 21:11

L

labs 18:14, 18:16
larson 4:9, 15:16, 16:2, 16:5, 19:18, 19:20
larson's 20:9, 20:21
last 13:4, 13:8
late 17:9, 17:16, 17:23
lauppe 3:5, 4:3, 5:10, 5:11, 9:8, 9:22, 10:10, 10:13, 10:16, 10:18, 16:1, 19:12, 19:16, 21:16, 21:19, 22:1, 22:2, 22:8, 22:11, 22:22, 23:1, 23:4, 23:11, 25:1, 25:11, 25:23, 27:6, 28:19, 29:6, 29:17, 29:23, 30:4, 30:11, 30:14, 30:21, 31:2, 31:8, 31:16, 31:23, 32:6, 32:17, 33:9, 33:18, 34:3, 34:7, 35:15, 35:16, 36:2, 36:19, 37:2, 37:12, 38:17, 39:7, 39:14, 39:19, 39:23
lawrence 4:9, 15:16, 19:18
laws 41:7
lawyers 38:6, 38:8, 38:10
leading 14:21
least 5:18, 19:25, 20:20
leave 5:21, 16:23
led 16:10
legal 6:7, 7:24, 8:4, 10:4, 24:24, 25:16, 39:5
let's 12:23, 14:17, 16:7, 17:5, 19:5, 23:17
licensing 37:19, 38:2, 38:19, 39:9, 39:12
likely 15:13, 15:14
limited 37:20
limits 9:18
line 9:16, 38:21, 38:25
lines 37:15
litigation 13:25, 14:1, 14:9, 14:14
little 12:12, 17:6, 38:21
litton 21:11, 21:13, 21:14
llp 3:4, 3:11
lock 31:17, 31:20
long 9:2, 33:25
look 10:19, 34:22
looked 13:4
looking 12:16
loops 27:17, 27:19, 27:21, 27:22, 27:25, 28:6, 28:9, 28:11, 31:17, 31:20
los 41:3, 42:3
lot 13:1, 16:19
lots 31:21
low-pass 27:1
lower 19:5, 27:11

M

made 11:17, 13:16, 17:17, 42:20
make 9:9, 11:22, 25:9, 30:15, 34:22
many 5:17, 5:19, 6:16, 12:6, 15:14, 20:12, 27:24
march 1:20, 2:4, 5:1, 43:6
marine 6:9
marked 10:17, 19:15, 21:18, 22:10, 23:3, 34:6
marketplace 19:9
master's 20:1, 20:17
material 11:16, 13:2, 13:10, 13:12, 25:20, 31:13
materials 12:13, 12:14, 12:22, 12:24, 13:3
matter 6:17, 7:2, 24:2
matters 5:14
mccall 1:18, 2:1, 4:19, 5:6, 5:11, 10:19, 19:20, 22:3, 22:16, 23:12, 23:20, 34:19, 34:23, 34:25, 35:8, 35:18, 41:6, 41:16
mean 15:9, 15:21, 28:25, 35:4, 35:20, 40:2
measure 27:25, 28:6
measurement 4:16, 23:6, 31:24
meet 8:22, 9:2, 20:9
meeting 9:13

mems
17:9, 17:14, 18:5, 18:8, 18:12, 18:21, 18:23, 18:25, 19:2, 19:10, 20:4, 27:10, 37:21
mems-based
17:21
mems-imu
4:15, 23:6
met
19:8
meticulous
11:19
micromachined
4:13, 22:14
microstructure
4:12, 21:22
might
28:1, 35:12
minor
23:7
missiles
4:17, 23:7
mit
18:14
mix
12:15
more
12:12, 19:8, 20:11, 20:12, 20:13, 20:15, 28:1, 30:15
mory
3:11
mostly
21:5
motion
33:5, 33:7, 33:10
multimode
4:10, 21:21
myself
11:14

N

name
5:4, 5:11, 17:14, 17:25, 18:8, 43:5
named
42:13, 42:15
narrow
38:25
nasa
25:12
navigation
20:4, 21:1, 21:6
necessary
34:9
need
23:20, 28:1, 40:4
needed
19:8
neitzert
1:24, 2:4, 5:4, 42:5, 43:10
nelson
22:13
new
29:4
nintendo
1:5, 1:6, 11:9, 14:2
non-compensated
37:8
non-mems
27:9
none
19:7
nothing
42:18
number
5:5, 8:16, 8:17, 10:11, 19:13, 23:2, 42:9

O

oaths
42:10
object
21:25, 22:21, 23:9, 27:4, 33:6
objecting
29:1
objection
24:22, 25:6, 25:15, 28:15, 28:23, 29:13, 29:20, 29:25, 30:7, 30:13, 30:18, 30:24, 31:6, 31:11, 31:18, 32:1, 32:13, 33:4, 33:13, 33:23, 35:14, 35:22, 36:12, 36:23, 37:5
objections
42:20
obvious
14:22
offered
24:25
offering
24:9, 24:16, 36:14
office
1:1
often
12:14, 37:8
oh
10:12, 13:4, 33:19
okay
5:22, 7:17, 8:6, 8:22, 9:12, 11:2, 11:7, 12:6, 12:21, 13:24, 14:7, 14:17, 14:25, 15:2, 15:7, 17:14, 18:2, 18:18, 18:20, 19:24, 20:20, 21:13, 22:1, 22:8, 23:1, 23:14, 23:17, 24:12, 24:16, 24:20, 25:4, 25:14, 26:2, 26:14, 34:3, 34:17, 34:18, 35:3, 37:18, 38:12, 39:14, 39:17, 39:21
once
5:18, 5:21
one
6:15, 6:18, 6:20, 12:16, 18:11, 18:15, 32:23
ones
7:6, 16:18, 27:11, 29:14
ongoing
13:5, 13:13, 13:16
only
16:15, 16:18
opinion
24:2, 24:13, 25:8
opinions
24:9, 24:16, 24:24
order
39:25
ordinary
14:22, 15:2, 15:4, 15:8, 15:10, 19:22, 19:25, 20:10, 20:22
original
11:14
oscillators
30:12, 30:16
other
8:10, 12:13, 12:25, 13:2, 13:7, 13:14, 16:19, 16:20, 17:2, 17:20, 17:21, 17:24, 21:5, 26:22, 31:14, 33:16,

33:19
others
34:1
otherwise
5:20
out
5:14, 16:22, 23:22, 34:15
outcome
11:8, 43:2
outside
13:3, 17:1
over
38:21
own
13:1, 15:6
owner
1:10, 3:10
owner's
4:20

P

page
4:2, 4:7, 14:19, 14:20, 16:8, 17:6, 17:7, 18:3, 22:12, 23:19, 23:23, 34:12, 34:13, 34:21
pages
4:18, 42:23
palo
3:7
paragraph
14:18, 14:19, 16:7, 17:5, 17:8, 18:2, 18:4, 18:9, 19:19, 23:19, 23:24, 23:25, 34:24, 37:14
part
37:3, 37:13, 39:8
particular
9:17, 21:8
particulars
14:11
parties
43:2
past
13:12
patent
1:1, 1:3, 1:10, 1:13, 1:15, 3:10, 4:20, 6:3, 6:10, 6:13, 7:15, 8:16, 8:17, 8:19, 8:20, 11:25, 12:4, 12:13, 12:22, 12:24, 28:12, 28:18, 29:15
patents
6:21, 8:13, 8:14, 8:15, 13:2, 13:9, 13:11, 13:16, 14:22, 16:10, 16:15, 16:17, 16:19, 16:20, 16:21, 16:25, 17:1, 17:2, 19:3, 26:3, 26:5, 26:15, 26:18, 26:24, 27:2, 27:7, 27:13, 27:15, 27:17, 27:20, 28:10, 28:14, 28:21, 29:4, 29:10, 29:19, 30:2, 30:6, 30:9, 30:17, 31:13, 31:14, 31:19, 31:20, 31:22, 32:5, 32:10, 32:18, 33:11, 33:15, 33:16, 33:17, 33:25, 34:2, 37:19, 37:20, 38:3, 38:12, 38:19, 39:9
patrick
3:5, 5:11
penalty
41:6
people
6:3
performing
19:5
perjury
41:7
person
15:11, 19:22, 19:24, 20:9, 20:22
personal
24:1, 24:23
petitioners
1:7, 2:2, 3:3, 5:12, 39:20
phase
31:17, 31:20
picked
13:3
place
42:14
plaintiff
6:17
please
18:2, 23:18, 23:20, 25:17
point
11:21, 20:16, 35:4, 39:22
polysilicon
4:11, 21:22
position
24:20
preliminary
4:20
preparation
8:11, 8:22
preparations
12:16
prepare
8:6
preparing
12:11
present
7:6, 11:3, 37:3, 37:16, 37:18, 38:3, 39:8
presentation
11:16
presented
11:16
pretty
11:19, 23:22, 34:4, 39:16
previously
7:24
print
34:15
printout
34:10
prior
19:2, 21:7, 26:2, 26:5, 26:11, 26:14, 26:17, 26:24, 27:1, 27:7, 27:12, 27:17, 28:10, 28:13, 28:21, 29:7, 29:11, 29:18, 29:24, 30:5, 30:16, 30:20, 30:23, 31:3, 31:7, 32:10, 32:14, 32:16, 32:18, 42:15
privilege
9:15
probably
13:17, 15:20, 38:9, 38:20, 38:25
proceeding
6:1, 6:7, 6:14, 7:4, 7:5, 7:10, 7:18, 7:21, 7:24, 8:4, 10:13, 11:24, 11:25, 12:2, 12:3, 14:4
proceedings
7:25, 9:24, 10:1, 10:2,

10:8, 10:24, 11:2, 11:3, 11:5, 11:12, 12:7, 13:21, 14:5, 14:8, 15:17, 19:19, 26:3, 26:6, 26:15, 26:18, 27:8, 27:13, 27:18, 28:10, 28:14, 28:22, 29:19, 32:11, 32:19, 33:12, 36:16, 37:3, 39:8, 39:20, 42:24
processing 16:11, 20:4, 20:14, 27:12, 27:14, 27:16, 31:15
product 16:13, 16:16, 17:3, 18:1
products 17:11, 17:16, 17:20, 17:22, 31:1, 31:22, 34:25, 35:5, 35:9, 35:18, 35:21, 36:4, 36:8, 36:11, 36:21, 37:4
provided 19:21
published 21:23, 23:8
purposes 9:15

Q

qualified 42:7
quality 17:19, 27:11
question 22:20, 26:1, 28:3, 30:15, 35:15
questions 6:6, 37:10, 39:19, 39:22
quick 39:15
quite 6:7, 12:14, 13:1

R

radar 6:5, 6:9, 6:20
range 4:16, 23:6
rate 4:14, 22:14, 25:14, 25:22, 25:24, 37:22
read 8:13
real 3:13
realization 29:2, 29:9, 29:15, 31:19
realizations 28:17, 30:8
really 34:14, 37:11
recall 6:13, 16:4, 22:4, 39:11
recent 39:12
record 12:8, 21:24, 22:19, 29:1, 42:24
recorded 42:21
redwood 3:14
refer 8:19, 10:1, 11:2, 11:23, 12:2, 13:20, 13:24, 21:7
reference 18:5, 18:9
referred 16:24, 28:5
referring 8:15, 9:6, 10:2, 11:4, 11:24, 12:3, 12:24, 13:22, 14:1, 16:20, 27:23
regular 40:3
relate 6:10, 16:15
related 6:2, 6:3, 6:14, 6:19, 11:25, 12:3, 12:18, 13:9
relates 13:13
relating 17:3
relative 42:26
relevant 20:2
remember 6:15, 6:18, 15:21, 16:18, 16:24
rephrase 7:5, 35:15
report 7:12, 8:3
reported 1:24
reporter 2:5, 5:4, 5:7, 39:24, 42:8
requirement 20:17
requirements 19:8
responses 4:21
retired 35:4, 35:19
reveal 9:19, 15:24, 38:9, 39:1, 39:2
review 8:10, 9:12, 12:13
reviewed 8:12, 9:18, 16:19, 16:23, 32:15
reviewing 8:8, 12:22, 34:22
right 7:15, 10:16, 10:20
rigorous 15:3
rockets 4:17, 23:7
roger 21:21
role 20:25
roles 20:24
rough 39:25, 40:4
rowe 23:8
roy 23:7

S

said 9:9, 12:22, 15:21, 20:20, 21:13, 32:24, 36:13
same 28:23, 30:18
satisfactory 11:21
say 6:19, 7:8, 14:20, 15:11, 16:9, 17:4, 17:9, 19:5,

23:21, 23:25, 34:20, 37:6, 39:1
says 10:21, 19:24, 34:23, 35:8, 37:15, 39:4
scope 27:5, 28:15, 29:13, 33:4
screen 34:9, 34:16
see 10:21, 10:22, 10:23, 14:19, 14:25, 16:8, 17:7, 17:12, 18:4, 18:6, 19:20, 19:23, 19:24, 20:7, 23:24, 24:4, 34:23, 35:1, 35:10, 37:15, 37:16, 37:23
seeing 22:4
seen 22:3, 22:16, 23:12, 34:18, 36:6
semiconductor 20:4, 20:14
sense 26:13, 28:16, 29:5, 29:10, 30:10
sensing 26:14
sensor 13:14, 25:22
sensors 17:12, 25:14, 25:24, 27:7, 27:25, 28:6, 32:3, 37:22
sentence 16:9
separate 14:4
services 36:15
set 42:14
several 11:18, 12:9, 13:5, 13:8, 13:13, 16:17, 19:6
shorthand 2:5, 42:7
should 15:20, 28:24, 34:4, 38:11, 39:16
shown 34:18
sic 37:10
side 39:5
signal 16:11, 27:12, 27:14, 27:15, 28:1, 28:7
signals 26:5, 26:8, 26:9, 26:11, 29:3, 33:22, 33:24, 34:1
signature-p1kal 43:8
silicon 17:9, 17:14, 17:21, 37:21
similarly 36:16
since 38:12
sit 5:13
sitting 6:23
six 33:5, 33:10
size 34:14
skill 19:22, 19:25, 20:10, 20:22, 42:25
small 34:8
some 5:14, 8:8, 8:13, 12:13, 12:22, 15:4, 15:19, 17:17, 17:24, 18:12, 19:5, 21:3, 21:4, 24:23, 25:7, 33:25, 35:24, 36:14, 38:15, 39:5
somebody 6:5
sometimes 12:14
soon 23:22
sorry 10:15, 11:22, 20:23, 25:17, 28:20, 29:13, 30:15, 33:19, 34:8, 34:13, 34:22
sort 13:5, 23:23
sounds 35:12
specific 15:13, 15:14, 25:21, 26:9, 27:14, 27:19, 28:2, 28:12, 28:17, 28:18, 29:2, 29:9, 29:12, 29:14, 29:15, 30:2, 30:8, 31:12, 39:5
specifically 14:18
spent 8:8, 12:10, 12:15, 12:16, 12:17
spoken 15:18
ss 41:2
stand 24:6
standard 20:10
start 5:14, 12:23, 16:9, 17:7, 21:14
starting 14:18, 17:7, 23:19
starts 18:3
state 41:1, 41:7, 42:1, 42:8
statement 14:25, 24:6, 38:1
statements 38:24
states 1:1
stenographically 42:21
street 3:6
stringent 19:8
stuff 15:23
submit 7:9, 7:12
submitted 7:20, 7:23, 8:2, 8:3, 38:13
subpoena 6:8
subscribed 43:5
substance 38:10
substantial 14:21

Nintendo Exhibit 1048
IPR2024-00667 - Page 054

substituting
20:6
successful
37:19
successfully
16:12
suing
6:24
summed
29:3
summer
29:3
summers
28:20, 29:4
supervision
42:22
support
4:19, 21:4,
38:18
supported
37:19, 38:2
supporting
39:9
sure
11:22, 27:23
suspended
4:11, 21:22
sworn
5:7, 42:16
system
33:7
systems
14:9, 20:3,
20:14, 21:5,
21:12, 21:14,
33:10

T

take
16:22, 39:15
taken
2:1, 39:18,
42:13
taking
5:13
talked
16:2
talking
28:2
tape
6:9
tasks
35:25
technical
12:14, 25:4,
25:7, 25:9
technology
13:14
term
15:4, 15:8,
15:9, 27:16,
29:21, 30:25,
31:21, 32:2,
32:4
terminology
11:23
terms
29:16, 32:22
testified
5:8
testify
7:1, 42:17
testimony
6:9, 24:3,
42:12, 42:19,
42:24
testing
4:17, 23:7
text
34:22
th
2:2, 43:6
thank
5:12, 14:7
theoretically
38:5
thereafter
42:21
things
10:5, 12:17,
13:4, 36:16
think
9:16, 9:17,
19:13, 34:4,
34:21, 38:8,
38:20, 38:23,
39:16
third
34:12, 34:13
thor
22:13
three
9:4, 9:10
through
8:13, 11:20
time
5:13, 8:8,
8:12, 9:13,
9:23, 12:9,
12:10, 12:15,
12:17, 12:18,
12:20, 14:23,
15:10, 18:6,
21:11, 23:21,
33:25, 35:25,
36:6, 40:5,
42:13, 42:20
times
5:17, 5:19,
11:18
titled
21:21, 22:13,
23:5
today
5:12, 5:13,
6:23, 7:6, 8:20,
10:8, 10:25,
19:1
today's
8:6, 8:11,
8:23, 12:11
top
10:20, 18:4,
34:24
total
16:21
toward
14:19, 37:14
track
33:7
tracked
33:10
tracker
33:8
tracking
32:7, 32:12,
32:20, 32:25,
33:3, 33:14
trademark
1:1
transcribed
42:22
transcript
39:25, 40:1,
40:3
transform
30:22, 31:9
transimpedance
28:13, 28:16
trial
1:3, 7:1
true
35:3, 35:12,
41:8, 42:23
truth
42:17, 42:18
try
12:17
turn
14:17, 16:7,
17:5, 18:2,
22:12, 23:18,
23:23, 34:12
turning
11:11
two
10:8, 16:22,
18:10
type
25:22, 26:19,
29:3, 30:1,
31:12, 33:14,
33:15
types
19:6, 25:21,
26:9, 26:22,
27:24, 28:6,
28:9, 28:11,
31:14, 33:5,
33:16, 37:10

U

under
6:8, 41:6,

41:7, 42:22
understand
8:20, 10:2, 10:24, 11:4, 11:24, 12:3, 13:25, 14:4, 23:25, 27:23
understanding
33:2
understood
10:6, 12:21, 13:18, 13:24, 15:7, 22:1, 28:5, 32:24
unique
26:10, 30:9, 31:13, 31:20, 33:15, 33:25
unit
31:24
united
1:1
use
15:8, 18:11, 21:3, 21:4, 27:25, 28:6
uses
15:5
utilization
4:15, 23:5

V

vague
25:6
validity
24:13, 24:17, 24:20
various
31:1, 32:3
versa
20:6
version
11:19
versions
27:9, 27:10
vice
20:6
video
14:9
voltage
29:18, 33:22, 33:24, 34:1

W

want
9:9, 9:15, 37:13, 38:7, 39:24, 40:2
wanted
9:18
way
10:4
we're
7:6, 10:8, 10:25
we've
39:14
website
4:18, 34:10, 34:18
weren't
22:5, 22:23, 23:14
whereof
43:5
whether
16:17, 16:24, 25:8, 26:21
whoever
15:5
whole
42:17
without
36:15
witness
9:21, 24:23, 25:7, 25:18, 25:20, 28:16, 28:24, 29:2, 29:14, 29:21, 30:1, 30:8, 30:19, 30:25, 31:7, 31:12, 31:19, 32:2, 32:14, 33:5, 33:14, 33:24, 35:24, 36:13, 36:25, 37:6, 38:12, 39:4, 39:17, 42:13, 42:15, 42:19, 43:5
woodland
1:19, 2:3, 5:2
wording
37:9
wordsmithing
37:9
work
12:25, 13:6, 13:8, 13:13, 13:16, 13:17, 14:21, 18:10, 18:16, 18:18, 20:14, 21:3, 21:5, 21:7, 24:4, 26:10, 26:11, 29:4, 36:1, 37:3, 37:4, 38:6, 38:13, 38:15, 38:24, 39:5, 39:8, 39:9
worked
12:6, 13:8, 13:11, 13:12, 15:13, 19:6, 25:12
working
11:15, 18:12, 18:15, 20:12, 20:13, 21:1, 21:14
www
34:11

Y

yeah
13:19, 25:19, 28:25
years
5:23, 6:16, 13:5, 13:8, 13:13, 13:15, 15:14, 20:2, 20:11, 20:13, 20:15, 20:21, 38:13
yourself
25:4

.

.5000
3:8
.7248
3:15

0

00
39:18
000668
10:22
00667
1:12, 10:3, 10:21
00668
1:14, 10:3
03
2:3, 5:1

1

1
2:3, 5:1
10
4:19
1035
4:8, 19:14, 19:15, 19:17
1036
4:10, 21:17, 21:18, 21:20
1037
4:13, 22:9, 22:10
1038
4:15, 23:2, 23:3
1039
4:18, 34:5, 34:6, 34:19
11
18:2, 18:4, 18:9, 39:18,

40:5
1130
3:7
122
8:16, 8:19, 11:25, 16:10, 19:3
14
1:20, 2:4, 5:1
15
2:2
17
43:6
18
16:23
19
4:8
1978
21:15
1990
17:9, 17:16, 17:23
1996
21:23
1998
22:15, 23:8
1999
20:10, 20:18, 22:5, 22:24, 23:15

2

2
39:18, 40:5
20
16:7, 16:21, 17:1
2011
5:25
2015
37:15, 37:18, 38:3
2019
4:8, 19:19
202
41:10
2023
4:19, 10:14, 10:17, 11:12, 11:13, 16:8, 17:8, 18:3, 23:18, 24:10
2024
1:12, 1:14, 10:3, 10:21, 10:22
2025
1:20, 2:4, 5:1, 43:6
21
4:10
22
4:13
23
4:15

3

3175
3:6
34
4:18

5

5318
1:24, 2:5, 5:5, 42:9, 43:10
57
19:19
575114
1:25

6

6,508,122
1:13, 8:16
6,671,648
1:15, 8:17
6-degree-of
32:24, 33:2
6-degree-of-free-dom
32:7, 32:11, 32:19
6320
2:2
648
8:17, 8:20, 12:4, 16:10, 19:3
650.351
3:15
650.843
3:8
667
11:23
668
12:2

7

701
3:13

9

94063
3:14
94304
3:7